

Guide to
WASHINGTON PARK ARBORETUM
An Official Arboretum of Washington State

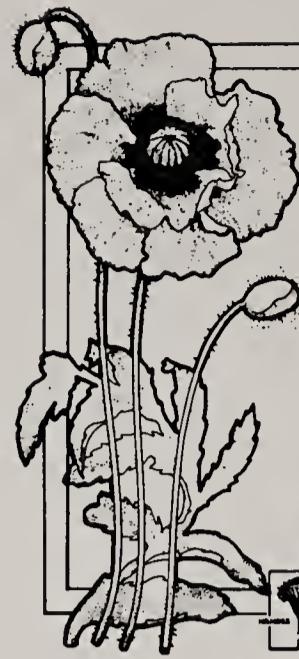


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Concerning This Guide...

Everything here in the Washington Park Arboretum is growing, and we want you to grow with us. We hope you use this guide to help make each visit as special as possible.

Come to WPA for inspiration, to get plant ideas, for research, or to use as an outdoor classroom. In these pages the staff and volunteers describe the plant collections in rich detail and will help you find programs, events, services, and volunteer opportunities designed to match your interests. See how the Arboretum works, go behind the scenes, learn about WPA's beginnings over sixty years ago, and read about plans for an even richer future.

Also inside, discover the extra privileges you receive when joining WPA's non-profit support organization, The Arboretum Foundation. If you want to help us prepare for ever-expanding horticultural and human demands during this exciting period, become involved by commenting on the master plan—the blueprint for WPA's growth.

Enjoy volunteering, learning, or simply wandering through the collections. Whichever path your interests lead you on, take the many opportunities to understand woody plants while ushering the Arboretum into the twenty-first century.

At WPA, you'll find three organizations with complementary specialties, which have come together to offer one of the finest horticultural experiences in the Northwest. The Arboretum Foundation, the University of Washington, and the City of Seattle extend an open invitation and promise to help you get the most out of your experience.

We're glad you're here and hope you come again soon to Seattle's museum of woody plants, shrubs, and vines—best known in the region and the world as the Washington Park Arboretum. —*Jan Silver, Editor*



Guide to Washington Park Arboretum

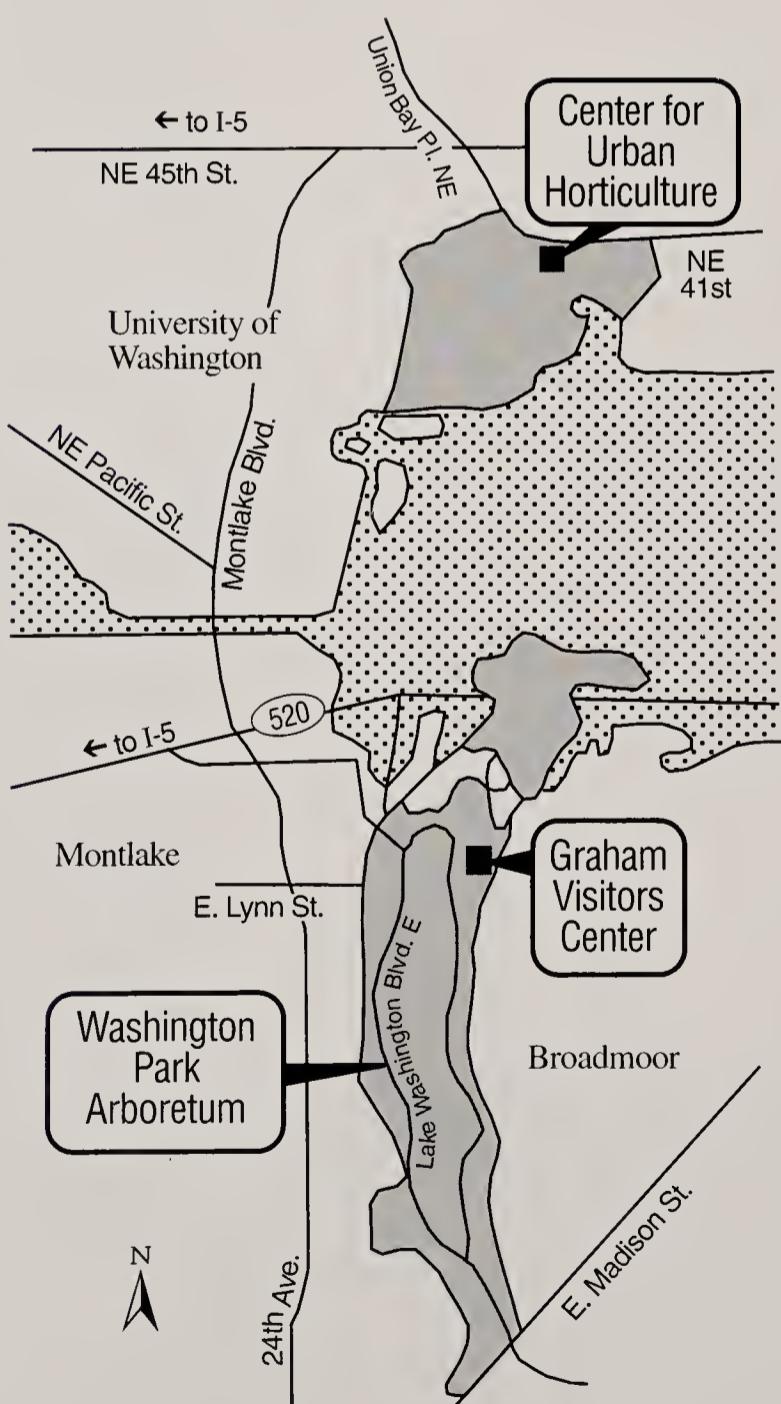
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Photos by Joy Spurr. COVER (upper left to right): *Camellia japonica* 'Daikagura' in early spring and *Cornus kousa* 'Milky Way' in summer. (lower left to right): *Liquidambar styraciflua* in fall and *Cedrus atlantica* after a winter snow. OPPOSITE PAGE: Autumn leaves of *Stachyurus praecox*. ABOVE: Azalea Way in May. Come visit WPA soon.

The Washington Park Arboretum Bulletin is published quarterly as a bonus of membership in The Arboretum Foundation, Seattle, Washington. This guidebook is a double issue substituting for spring and summer 1995 (volume 58, 1 & 2). © 1995 The Arboretum Foundation. ISSN 1046-8749.

The Washington Park Arboretum is administered cooperatively between the University of Washington, its Center for Urban Horticulture, and the City of Seattle Department of Parks and Recreation. The programs and plant collections are a responsibility of CUH. The Arboretum Foundation is a non-profit organization that was chartered to further WPA development, projects, and programs through volunteer service and fund raising.

The Arboretum Foundation mission is to ensure stewardship for the Washington Park Arboretum, a Pacific Northwest treasure, and to provide horticultural leadership for the region. This stewardship requires effective leadership, stable funding, and broad public support.



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Hours

WPA grounds • open dawn until dusk

UW Arboretum • Visitor services, public information desk, public education, children's programs, and collections: 10–4, M–F; Noon–4, Saturday, Sunday, holidays (except Thanksgiving, December 25, and January 1).

Center for Urban Horticulture • Public education programs. 9–5, M–F; (206) 543-8616; FAX 655-8033. The Elisabeth C. Miller Horticultural Library: 9–8, Monday; 9–5, T–F.

Graham Visitors Center • 2300 Arboretum Drive East, Seattle, WA 98112-2300, PO Box 22452, Seattle, WA 98122-9929.

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Abbreviations

AF	<i>The Arboretum Foundation</i>
CUH	<i>Center for Urban Horticulture, UW</i>
DPR	<i>City of Seattle Department of Parks and Recreation</i>
UW	<i>CUH's staff based in the Arboretum</i>
WPA	<i>Washington Park Arboretum</i>

Help Protect WPA

Bicycle only on pavement—not trails or grass.

Jog on roadways and gravel trails—not grass or fragile places such as Azalea Way (cooldowns only).

Use playfield for organized sports.

Leash dogs and scoop up after them.

Events for groups: Obtain use permit from 684-4080.

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Did you know that Washington Park Arboretum...

is a living museum of woody plants for education, research, conservation, and display

was started among native plants at WPA in 1935, with 11,000 azaleas, 700 flowering cherries, and 150 eastern dogwoods

covers 200 acres of urban green space, including 40,000 trees, shrubs, and vines

has a wider variety of plants than almost any other non-tropical area in the US due to its Northwest climate

persists among the top three woody plant collections in North America

contains the number one public Japanese maple collection in the US

ranks second in the US in its collection of firs, hollies, and maples

manages one of the most diverse coastal areas of any US arboretum

boasts 4,768 different species and cultivated varieties from around the world

maintains 771 wild-collected accessions and 139 plants on the endangered species list

hosts 49 migrant and 51 resident bird species and is rich in wildlife

runs 1 mile in length, north to south

functions with over 1000 volunteers providing over 250,000 volunteer hours

is creating a master plan to save, restore, and enhance the collections to make them more useful for public viewing

and welcomes 300,000 visitors, such as yourself, yearly.

An arboretum is a living museum of woody plants for education, conservation, research and display.



Enjoy these visions of gold during an Arboretum autumn. UPPER LEFT: *Malus* 'Golden Harvest' fruit (crab apple), October. LOWER LEFT: *Gleditsia triacanthos* 'Sunburst' (honey locust), October. ABOVE: *Gingko biloba* 'Autumn Gold,' October.

A Northwest Treasure

by John A. Wott, Director of Arboreta
photos by Joy Spurr



Photo by John Reams, University of Washington Photography

Located in the middle of Seattle's rapidly growing urban population is the Washington Park Arboretum (WPA). At first glance it may appear to be just a big green space of approximately two hundred acres. It is that—and much more, too. WPA is a museum (without walls) dedicated to growing, studying, conserving, and displaying large numbers of trees, shrubs, and vines.

Foremost, the living museum in Washington Park has acquired over ten thousand plants, yet, including the natives already on the grounds, has almost forty thousand specimens. All were started from seeds, cuttings, or grafts and grow to mature forms with various life spans. Since woody plants also die, this museum requires constant care and management.

When you visit, think of the Washington Park Arboretum as you would the other familiar living museums in the Puget Sound area: Woodland Park Zoo, Seattle Aquarium, and Northwest Trek.

Why a Northwest Arboretum?

Some authorities consider WPA's woody plant collection to be one of the two most important in the United States, the other being the Arnold Arboretum in Jamaica Plain, Massachusetts. WPA has the largest public Japanese maple collection in the US and the second largest collection of firs, hollies, and maples. The maritime Northwest's Mediterranean-like climate, with mild winter rains and somewhat stressful summer drought, allows WPA to grow and exhibit a wider variety of plants than almost any other non-tropical area in the United States.

WPA Is for Gardeners

Established officially in 1934, this public land trust is one of the oldest public gardens west of the Mississippi River and is the largest north of Strybing Arboretum, San Francisco. It was started to emphasize plants for Northwest gardens and is situated on land owned by the City of Seattle. The University of Washington is responsible for managing the Arboretum, its collections, and associated programs. An active non-profit fund-raising organization, The Arboretum Foundation, has three thousand members who have supported the Arboretum with almost three million dollars in donations since 1935.

WPA's Value

Due to WPA's ability to grow an extraordinary variety of plants, it has great international significance as a conservation repository and for display of both native and cultivated plants. WPA also has one of the most ecologically diverse wetlands, with shorelines along Union Bay leading into Lake Washington.

The cultural value to Seattle and the Pacific Northwest region is immense. The Arboretum could be considered a two-hundred-acre art museum or perhaps a symphony of plants, easily accessible to the urban population center. For generations, citizens of Seattle and of Washington have visited the Arboretum as a destination of beauty, repose, and education. The aesthetic experience alone is equal to many cultural and arts institutions.

In 1995, WPA became one of Washington State's official arboreta.

Who Manages the Arboretum? City of Seattle

The City of Seattle is responsible for all infrastructure support, turf, the Waterfront Trail, Japanese Garden, and native plant areas, as well as security. As a city park, Seattle is also responsible for a large number of the regulatory functions. In 1985 and 1989, city bond issues supported the renovation of the Waterfront Trail and Azalea Way grass walk.

Due to the high impacts, active recreational activities are restricted. This includes organized games, such as pick-up football, frisbee, golf, or cross-country track. For public safety and to preserve the site, bicycles are not permitted on gravel trails or turf areas (except at the entrance trail to the Graham Visitors Center from Lynn Street Footbridge). Because of the hard impacts on the turf, especially Azalea Way, jogging is only on the stable gravel paths.

The Arboretum is a very pleasant place to stroll with your dog, but the City leash-and-scoop law applies and is important here, as well.

University of Washington Center for Urban Horticulture

The University of Washington owns the plant collections and manages the functions of the Arboretum and associated public programs and activities. It sets the priorities for plant management and helps the academic and community units that want to use the Arboretum. The University is often the entity that brings all the various interests together for planning purposes. Recently, UW has received two Institute of Museum Services competitive grants for generating operating expenses and for renovation of the Japanese Maple collection. Receiving these national grants is a mark of a superior garden.

In 1980, the Center for Urban Horticulture was created. It is now an academic unit in the College of Forest Resources and is charged with overall administration of WPA. In 1993, a full-time director of arboreta was selected, and now WPA's University of Washington administration is located in the Arboretum's Graham Visitors Center.

The CUH site about 2.5 miles away is where Arboretum plants are propagated and grown. Also at that site is the Elisabeth C. Miller Horticultural Library (open to the public), The Douglas Hyde Hortorium, some

public education staff, and some of the administrative staff to support the Arboretum.

The Arboretum Foundation

Almost as old as the Arboretum itself is its non-profit support organization, which continues to be the major private fund-raising arm of the Arboretum. The Arboretum Foundation has nearly fifty individual units, which are groups that meet to learn more about particular interests and sponsor a number of educational events. These units also raise money for the Arboretum in a variety of ways, such as popular sales of plants, winter greenery, bulbs, and books.

Arboreta Helping Each Other

The Arboretum is one of several hundred such living plant museums, all joined together in North America by the American Association of Botanical Gardens and Arboreta. Internationally, these gardens exchange seeds, plant materials, and other information through many organizations, periodicals, a seed exchange, and a computer program for botanic gardens. Many of these exchanges are free of charge to participating institutions, thus helping each arboretum economically in developing quality collections.

You may be familiar with some of WPA's sister institutions in the Northwest, including the Rhododendron Species and Botanical Garden, Federal Way, Washington; the Berry Botanical Garden, Portland, Oregon; and the University of British Columbia Botanical Garden and VanDusen Gardens, Vancouver, British Columbia, Canada.

A Remarkable Place

Truly, the Washington Park Arboretum is a remarkable place that means different things to different people. As it moves into the twenty-first century, you can look forward to the results of planning to help the preservation and renovation of WPA's cultural, historical and ecological heritage. Washington Park Arboretum is ready to meet the demands of an ever-changing clientele as well as a changing region.

John A. Wott, Ph.D., is director of Arboreta, Washington Park Arboretum, and professor of Urban Horticulture, Center for Urban Horticulture, University of Washington, Seattle.

WPA's Collection of Woody Plants

Education, Conservation, Research & Display

Education

WPA has educational facilities for the general public, plant enthusiasts, and students of all levels in regional schools who are interested in biology and in how plants are used in landscapes. Children of all ages take part in organized activities such as the Saplings Program, family festivals, and structured tours. The public can choose from an increasing array of public plant and gardening classes. Regular users include many organized classes in high school biology and botany, community colleges, technical schools, continuing education, and at the university level in urban horticulture, botany, forestry, landscape architecture, chemistry, and education.

Community groups such as Boy and Girl Scouts, Powerful Schools, Adopt-a-Stream, and other environmental and ecological organizations increasingly use the Arboretum. Interpretive signs are always being added and updated to help you understand the plants as you walk through the collections.

As a community park, the Arboretum can appear to be an inviting location for recreational activities. However, as a living museum that features many sensitive planting areas, active recreation can be very damaging.

Conservation

WPA contains about 130 different plants now on endangered species lists, collected from around the world. A large percentage of the plants are collected with permission, in the wild.

The Arboretum plans to become more diligent about local plant conservation. This becomes increasingly important as many native trees that form the backbone of WPA's planting matrix near the end of their life cycles. The bigleaf maples, for example, are literally disintegrating before our eyes.

Research

Detailed information about each Arboretum plant's history is maintained on computer. Such information has numerous uses to scholars and gardeners alike. It is helpful for figuring out when plants were introduced and to determine the cultural recommendations that must be made for healthy growth. Gardeners from around the region can also observe these plants and take home ideas for their landscapes. The Arboretum staff is beginning studies on reintroduction of stands of Garry oak and madrona.

Display

The Arboretum strives to make you aware of different plants in the park and to heighten your appreciation for the diversity they can bring to the landscape. Signs and plant tags are constantly being added to help viewers. WPA was designed for user enjoyment by James Dawson and Frederick Olmsted, Jr., of the famed Olmsted Brothers, landscape architects, and it is one of the few of their larger arboreta still in existence today. Such a historical legacy helps all users to enjoy and appreciate the collections in a naturalistic, pleasurable environment. — *John A. Watt*

Most Asked Questions

by Marienne "Nuki" Fellows

Every day of the week, Arboretum volunteers answer questions over the telephone and in person at the information desk at Graham Visitors Center. Over the years, the following questions are asked most frequently.

What can you tell me about the quaint looking stone cottage at the intersection of Lake Washington Boulevard South and Arboretum Drive East?

The cottage is "a home whose windowed light for fifty years has warmed the nights of a botanical kingdom," wrote plantsman Daniel Hinkley. It is a visual symbol of the ageless love affair we all have for our two-hundred-acre arboretum. This structure was designed and built in 1937 with federal funds from the Work Progress Administration and the University of Washington. Four hundred twenty-five square feet of living space was enclosed with two-foot-thick walls of local granite and timbers of Douglas-fir; the Cotswold-type roof is slate. The handsome, English-style building was available in 1946 for the new curator, Brian Mulligan (now Director Emeritus) and his wife Margaret when they came from England and occupied it for a year. Since then, gatekeepers, arboretum employees, artists, and UW students have resided there, though as a child my son fully believed it to be the home of the King of Elves.

Where are the greenhouses seen on the sign for Lake Washington Boulevard East?

The Pat Calvert Greenhouse, built in 1959 by The Arboretum Foundation, is located at the south edge of the Graham Visitors Center parking lot. Every week a dedicated group of knowledgeable volunteers gathers there to propagate Arboretum plants and sell them to Foundation members and the public.

Why do members so often refer to the Olmsted Plan?

In 1857, Frederick Olmsted and an architect partner founded the profession of landscape design. They believed that natural environment and properly designed landscape



Stone Cottage

spaces have a very positive effect on people. Olmsted designed the nation's first city park and followed with plans for parks across the country. Washington Park Arboretum is very fortunate to be part of this heritage.

The Olmsted Brothers firm was commissioned to produce the first master plan for the Washington Park Arboretum (then called University of Washington Arboretum). Frederick Law Olmsted, Jr. and James Dawson, son-in-law and active principal, respectively, actually drew the plan. WPA is one of four large arboreta today with an Olmsted plan.

Is the Japanese Garden part of the Arboretum, and why is it fenced?

At the southern end of the Arboretum is the Japanese garden. The idea for it dates back to 1937. Events, attitudes, and World War II intervened and plans were dropped. By spring of 1960, enthusiasm returned and the garden was designed and supervised by Mr. Juki Iida of Japan. The authentic ceremonial teahouse was a gift from the city of Tokyo. One of the beautiful lanterns is a gift from Seattle's sister city, Kobe. The teahouse was destroyed by fire in 1973 and then rebuilt in 1981 with the assistance of the Urasenke Foundation of Kyoto. The fence is for protection.

Is Foster Island part of the Arboretum, and who was Mr. Foster?

Foster Island is part of the Arboretum. Both names, Foster and Foster's Island, have

been used interchangeably through the years. There have been many stories, and the actual origin of the name has not been verified. The original island of one acre was purchased by the City of Seattle in 1917 for \$15,000, giving the existing arboretum a waterscape of delightful marshy lagoons and native woods. When a ship canal was dredged to join Lake Union and Lake Washington, much enlarging and shaping took place, making the island much bigger. This newly emerged land became the property of the University of Washington. Then, when the Evergreen Point Floating Bridge went through and above it in 1963, the Arboretum lost about 60 acres. The University of Washington has developed the Foster Island nature trail, footbridges, and appropriate collections to make better use of what has remained.

What is the history of the bridge that crosses Lake Washington Boulevard East from the Montlake District?

The Lynn Street Footbridge, which is so low that it catches many an unwary bus, is visually a very important landmark. It carries a main waterline, so the location and construction remain fixed. The Montlake community has taken a real interest in this attractive approach to the grounds from East Lynn Street and was able to arrange for money to repair the historic lights. AF's Arboretum and Botanic Garden Committee matched this contribution from their trust fund.

Why do I see trees being cut in the Arboretum?

We are very fortunate in having a small but very able crew that decides what pruning, thinning, and removal needs to be done each year in WPA; this includes a certified field arborist. Many huge old trees that have served us well can cause much damage if their condition is weak when storm winds hit. Others may have reached a point where they take too much light and nourishment from the plants in special collections.

According to Director of Arboreta John Wott, "The Arboretum's mission is really to preserve plants. Each year, however, some must be removed because of public safety, old age, or change in emphasis of our collection.

Since members of our collections—large, noticeable trees—do die, it is quite obvious when some are removed. Every plant is removed only after careful consideration, some after numerous prolonged discussions."

May I dedicate a memorial tree in the Arboretum?

A large number of requests make it impossible to allow specific plants or trees to be designated by plaques. The spirit of this type of giving is deeply appreciated, however, and is being studied.

The Arboretum Foundation accepts any undesignated memorial contributions to a specific fund being used to upgrade the Rhododendron Hybridizers Garden near Azalea Way, an area that contains many special rhododendrons and magnolias. This area is being planted with special rhododendron hybrids.

There are three ways to give memorial monies: to a general Arboretum Foundation memorial fund, to a specific University of Washington fund for trees and plants, and to the Rhododendron Hybridizers Garden.

Why does The Arboretum Foundation always raise money for Azalea Way, and why doesn't it seem to change?

Azalea Way was a key element in the Olmsted plan for Seattle's arboretum much as spring lilacs were used by the same designers in the Arnold Arboretum. Between 1906 and 1924, this area was an old logging road used as a speedway, and then a track for harness racing and horseback riding was established. By 1939, plans were completed and work started. Approximately 11,000 azaleas, 700 flowering cherries, and 150 eastern dogwoods were planted.

As happens to all of us, age has taken its toll on the collections on Azalea Way. The preview party of the Northwest Flower and Garden Show raises monies annually to benefit this area. Funds raised are carefully protected and earmarked to upgrade plants and to improve drainage for beds and turf areas.

Nuki Fellows, longtime AF member, was part of the original AF guide program and a co-founder of the Saplings Program for elementary school children. Nuki is frequently at the reception desk to answer your questions.

Pathfinders

Arboretum Publications



ABOVE: *Cornus mas* (Cornelian cherry) in April. OPPOSITE: Strolling Cherry Lane in October. Photos by Joy Spurr.

Pick up free or modestly priced information when you visit the Arboretum's Graham Visitors Center and its gift shop, the Center for Urban Horticulture, or the Japanese Garden. This information will help get you around the Arboretum and on the path to further understanding WPA and its related programs.

Graham Visitors Center

2300 Arboretum Drive East, Seattle. Free pamphlets can be found at the information desk; books are for sale in the Gift Shop.

Arboretum Bulletin. AF. The Arboretum's colorful magazine keeps you on the leading edge of Pacific Northwest gardening in addition to explaining WPA collections and their significance. Some special issues: Japanese Garden; Maples; Chinese gardening; Historical aspects of the Arboretum; Native plants; Korean gardening; Drought-tolerant gardening in the Northwest; Preparing the Garden; Color through the Year; Guide to the horti-

cultural collections at the Woodland Park Zoo, and more. \$1 to \$3. *The Bulletin* is a quarterly benefit of membership in The Arboretum Foundation. Back issues and current issues are for sale in the Gift Shop.

Arboretum Foundation Events (for current year). AF. This list contains information and dates about the book sale, spring plant sale, fall bulb sale, and Greens Galore (for the holidays) and their dates.

Arboretum Guided Tours. WPA. Information about available tours can be obtained from the education coordinator and at the information desk.

Arboretum Waterfront Self-Guided Trail. DPR. 1986. In twenty-seven steps, understand the environment, plant life, animal life, and history of Marsh Island and Foster Island at the northeast end of WPA, starting down the hill from the Graham Visitors Center.

Checklist of Birds: Washington Park Arboretum/Lake Washington Montlake Fill, Union Bay Marsh. AF. July 1987. Compiled

by Merilyn Hatheway, Phil Mattocks, and Dennis Paulson. Six pages of bird lists include the birds in WPA and a map.

Cultivated Palate: The Arboretum Foundation Cookbook. AF. 1994. Delicious kitchen-tested recipes, including gorgeous color photos of WPA by Joy Spurr. 206 pages. \$15.00. For mail orders add \$3.00 postage and handling; Washington residents add \$1.20 tax.

Cuttings through the Year. AF Unit Council. Revised 1995. Joy Spurr (author and photographer), Jean Emmons (cover). The handbook lists the different months of the year when cuttings can be made successfully. In addition to Latin and common names, there is a wealth of material on propagation. \$3.50. For mail orders: \$5.00 includes postage and handling (\$6.50, Canada).

Foster Island Ecology Walk. DPR, UW. Get this pamphlet for highlights of the Foster Island habitat.

Ground Work: The Arboretum Foundation Newsletter. (a monthly benefit of membership

in The Arboretum Foundation.) AF. Find up-to-date information on AF and a calendar of events, members-only activities, preview sales, study groups, units, current lecture series, and the latest gardening tips.

Join The Arboretum Foundation! AF. Support the Arboretum and enjoy many benefits by joining The Arboretum Foundation.

Maples. AF. Daniel Hinkley (from master's thesis). The brochure takes you on a tour and provides information about 21 maples of the Arboretum.

Planning for the Future—The Washington Park Arboretum. (AF). The master plan for WPA seeks citizen input and understanding during the preparation of this important "blueprint" for the future.

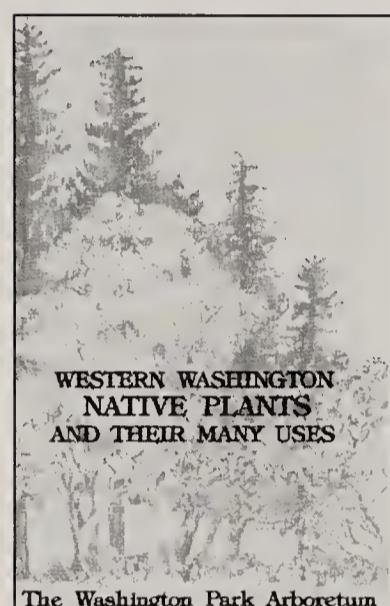
Signature Bed Map. AF. Each year at the west entrance of the Graham Visitors Center, talented, dedicated guest designers create different gardens in a permanent raised bed for visitors to enjoy. Ask for a garden plan and plant list.



Tour the Washington Park Arboretum. AF. The twenty-six minute video of WPA is narrated and highlights the seasons and collections. \$9.95.

Trail Map. UW, DPR. The pamphlet containing collection highlights and a map of WPA is a must for visitors.

Youth Education Programs. UW. Educators (grades 1-12) and youth group leaders are introduced to WPA programs, tours, and "Explorer's Packs" containing hands-on field equipment and guides.



matrix as well as a native plant list and much more information, with excellent illustrations.

The Woody Plant Collection in the Washington Park Arboretum. UW. Serial Publication. 1994. 143 pages. Includes map of the collections and where to find them. \$9.95. For mail orders, \$12.11 includes postage and handling. (See page 15.)

Center for Urban Horticulture

The University center that administers the Arboretum is based at 3501 NE 41st St., Seattle. Pick up literature in the entrance, the lobby, and in the horticultural library.

The Center for Urban Horticulture—University of Washington College of Forest Resources. CUH. This brochure contains much CUH has to offer in the way of academic programs, research studies, and public education program lectures, classes, tours, newsletters, and special events.

Elisabeth C. Miller Library. CUH. The brochure on the Northwest's foremost horticultural library shows how it serves the public as well as scholars, the horticultural professions, and WPA. Pick up one of over seventy

book lists prepared on topics ranging from fruit-tree maintenance to shade gardening and native plants; a list of small lending collections is available, including books, maps, and nursery catalogs.

Maps. CUH. Landscape maps of CUH are available with plant lists for the fascinating McVay Courtyard, CUH's Shade Entry Border, and the Goodfellow Grove.

ProHort. CUH, College of Forest Resources. Quarterly. ProHort professional seminars are planned cooperatively by CUH and Washington State University Cooperative Extension-King County. This newsletter includes information on the seminars, other educational opportunities, and books of interest. Call (206) 685-2692 for free subscription.

Undergraduate Education in Urban Forestry. CUH. Pamphlet about the Bachelor of Science in Forest Resources (Urban Forestry).

Urban Horticulture Graduate Program (MFR & Ph.D.). CUH, College of Forest Resources. Ask for pamphlets about the Master's of Forest Resources or doctor of philosophy.

Urban Horticulture Presents. CUH. Quarterly. Included is news about CUH and WPA, volunteer activities, public educational programs held at both sites, special events, and information on the Elisabeth C. Miller Horticultural Library. Call (206) 685-2692 for free subscription.

Japanese Garden

The Japanese Garden is located at the south end of Lake Washington Blvd. East near East Madison. Brochures are available at the ticket booth.

Japanese Garden: A Self-Guided Tour. DPR. The brochure contains a history of the Japanese Garden and Japanese Garden Society, comments about the tea ceremony, and tour information.

Plants of the Japanese Garden, an alphabetical list. Japanese Garden Society. Compiled by Kathleen Smith. \$3.00.

Contributions by Dave Stockdale and Dana Kirley.

Find Your Way with the Arboretum's Catalog

by Tracy Omar

You can certainly enjoy the Arboretum by looking at the plants as you meander along the trails. But, to receive the most from a visit, get the Arboretum's catalog, *The Woody Plant Collection in the Washington Park Arboretum*. This book lists the ten thousand plants in two hundred acres of collections and explains where to find each of them.

Most of the catalog lists the trees and shrubs on the grounds in alphabetical order. Following each plant's scientific name are the common name, the geographic range of the plant in nature, and known locations of the plant in the Arboretum. Hybrids or cultivars have "garden origin" written on them instead of a geographic range.

Finding a Plant

You can find the location of each Arboretum woody plant by using the catalog. Each plant's alphabetical listing has a grid coordinate, e.g., 16-4E, which corresponds to the fold-out grid map in the book. Each grid square represents 100 × 100 feet in actual size.

Larger collections and planting groups can be located by finding their two-letter abbreviation in broader areas on the map: JG = Japanese Garden, UB = Union Bay (Center for Urban Horticulture), FI = Foster Island, VC = Graham Visitors Center. Plants that occur naturally throughout the Arboretum are designated as "Native Matrix."

Plant locations in the collection not easily described have the word "Inquire" near the listing. To locate these particular plants, ask for assistance at the Graham Visitors Center information desk.

Using the Map

Open the fold-out map in the *Woody Collection* catalog. Note that grids are numbered from 0 to 50, south to north. The base line that divides the Arboretum east to west is designated "B."

Plant locations are indicated by a combination of a south to north number from 1 to 50 and an east or west number. A grid is numbered by its southwest corner. So heading west from the baseline grids are numbers 1W, 2W, 3W, etc. Going east from the baseline grids are numbers, 1E, 2E, 3E.

Understanding Plant Tags

Each plant in the collection should have a 1×3-inch green plastic label—though about one-third of all labels disappear within the first year. Following are a typical label (left) and how to interpret it (right).

ABIES FIRMA
Momi Fir
Japan 447-50

SCIENTIFIC NAME
Common Name
Range Accession Number

The accession number is a unique identifier that is assigned to individuals or a group of like propagules when they are obtained by the Arboretum. An accession may be a single plant, a group of cuttings, or a packet of seed, so one accession number may apply to more than one individual. Each individual plant, however, has only one accession number.

The two digits following the hyphen in an accession number are the year in which the accession came to the Arboretum. The number before the hyphen indicates the sequence of acquisitions within a year. For example, 447-50 is the 447th acquisition of 1950. The year of acquisition helps determine an approximate age and growth rate for a specimen.

Getting More Information

Information on plants in the collection is stored in a computer data base. WPA keeps track of when a plant comes into the collection, its origin, propagation information, when and where it was planted in the collection, and how it performs. This information can be found by knowing the accession number of the plant. If you want additional information about any specimen you see on the grounds, note the accession number on its tag and bring the information to the visitors center. To find out more on plant culture, use the Elisabeth C. Miller Library at CUH.

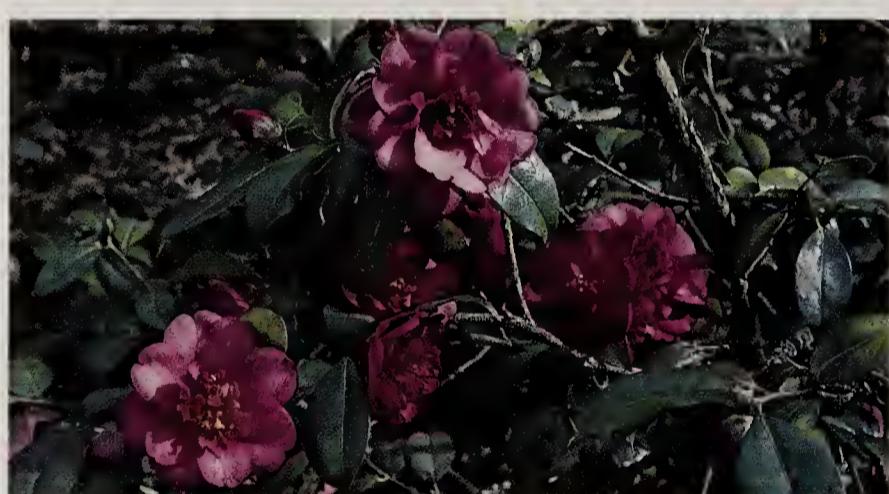
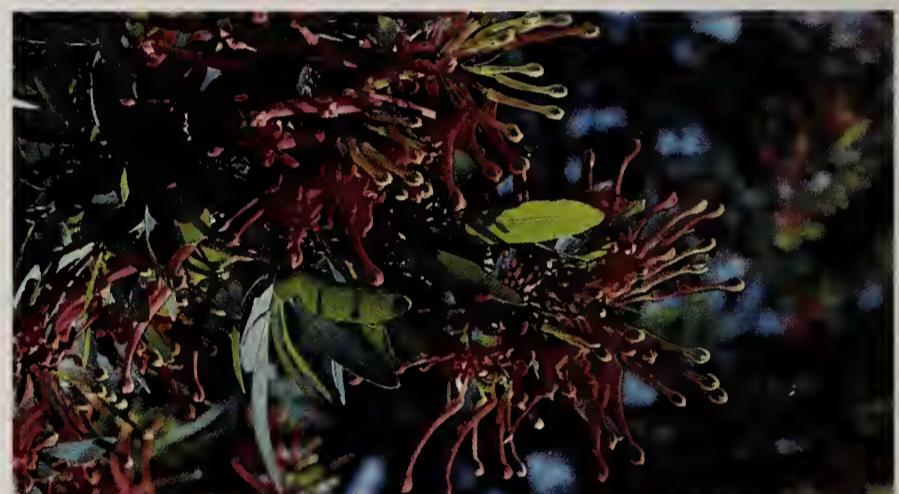
WPA has one of the finest collections of woody plants in North America. Exploring the collection is one of the best ways to learn about plants and gardening in Seattle. Using the catalog and records center resources allows you to get the most from your visits.

Tracy Omar is WPA's registrar and assistant curator.

Month-to-Month Highlights

by Regen Dennis

You can find the locations of plants listed below by asking at the Graham Visitors Center reception desk. Alternatively, buy a copy of *The Woody Plant Collection in the Washington Park Arboretum*, look up each species (in parentheses) alphabetically; when species name is not given, it is the same as the common name. Then use its grid number to find it on the fold-out map.



Photos by Joy Spurr (unless otherwise designated)

TOP TO BOTTOM: (left) Holly (*Ilex opaca* 'Mae'), witch hazel (*Hamamelis mollis*), *Camellia × williamsii* 'Caerhays.' (right) *Elaeagnus pungens*, Chilean fire tree (*Embothrium coccineum*), *Styrax obassia*.

January ♦ Camellia, garrya, heather (*Erica*), hellebore, holly (*Ilex*), mahonia, sarcococca, witch hazel (*Hamamelis*), the Winter Garden

February ♦ Daphne, dogwood (*Cornus mas*), chinonanthus, heather, hellebore, holly, rhododendron (*Rhododendron mucronulatum*), sarcococca, *Stachyurus praecox*, witch hazel, the Winter Garden

March ♦ Camellia, flowering cherry (*Prunus*), corylopsis, daphne, forsythia, heather, hellebore, magnolia, rhododendron, witch hazel

April ♦ Azalea Way, barberry (*Berberis*), camellia, flowering cherry, *Eleagnus pungens*, halesia, maple (*Acer*), madrona (*Arbutus menziesii*), magnolia, rhododendron, serviceberry (*Amelanchier*)

May ♦ Chilean fire tree (*Embothrium coccineum*), crab apple (*Malus*), dogwood, magnolia, mountain ash (*Sorbus*), rhododendron, *Styrax japonicus*

June ♦ Broom (*Cytisus*), dogwood (*Cornus kousa*), mountain laurel (*Kalmia*), rhododendron, rock rose (*Cistus*), *Stewartia pseudocamellia*, *Styrax obassia*, sweet bay (*Laurus nobilis*)

Keith Geller



TOP TO BOTTOM: (left) *Stewartia ovata* 'Grandiflora,' Sargent spruce (*Picea brachytyla*), crab apple (*Malus sargentii*). (right) witch hazel (*Hamamelis vernalis* 'Purpurea'), beautyberry (*Callicarpa bodinieri* 'Giraldii'), bark of *Pseudocydonia sinensis*.

July ♦ Eucryphia, hydrangea, maackia, magnolia, spruce cones (*Picea*), *Stewartia*

August ♦ Crab apple, eucryphia, hydrangea, mountain ash, sourwood (*Oxydendrum arboreum*)

September ♦ Camellia flowers, crape myrtle (*Lagerstroemia*), fall color, franklinia, golden rain tree (*Koelreuteria paniculata*), honeysuckle (*Lonicera*), Japanese maple (*Acer palmatum*), paw-paw (*Asimina triloba*), sourwood

October ♦ Buckeye (*Aesculus*), crabapple fruit, fall color, honey locust (*Gleditsia*), maple, mountain ash fruit, serviceberry, sour gum (*Nyssa sylvatica*), sourwood, strawberry tree (*Arbutus unedo*), witch hazel

November ♦ Beautyberry (*Callicarpa*), hawthorn (*Crataegus × lavallei*), holly, mountain ash, viburnum, witch hazel

December ♦ Barks, camellia, conifers, holly, *Perennya*, *Stranvaesia*, the Winter Garden

Points of Interest

by Regen Dennis

Azalea Way, a former log path to Lake Washington and then horse race track. The Olmsted firm designed it as a place to stroll on spring afternoons, bordered by Japanese flowering cherries and many types of azaleas and rhododendrons.

Brian O. Mulligan Sorbus Collection is one of the largest collections of mountain ash in the United States. From small shrubs to trees, there is a variety of white, rose, pink, red, and orange fruits in the late fall.

Conifer Meadow, planted in the shadow of construction of the SR 520 bridge, is an area of many younger cultivars of conifers, as well as new cultivars of crab apples.

Foster Island contains tree collections and is the home of many permanent and migratory waterfowl. Surrounded by wetlands, it is a prominent area to study ecology.

Joseph A. Witt Winter Garden is a forest room in which all the plants were chosen for a winter experience, from November to March. Each week, new flowers and foliage unfold, many with exciting fragrances and colors.

Loderi Valley has trails winding through

plantings of large-leaved rhododendrons (Loderi hybrids), magnolias, and conifers.

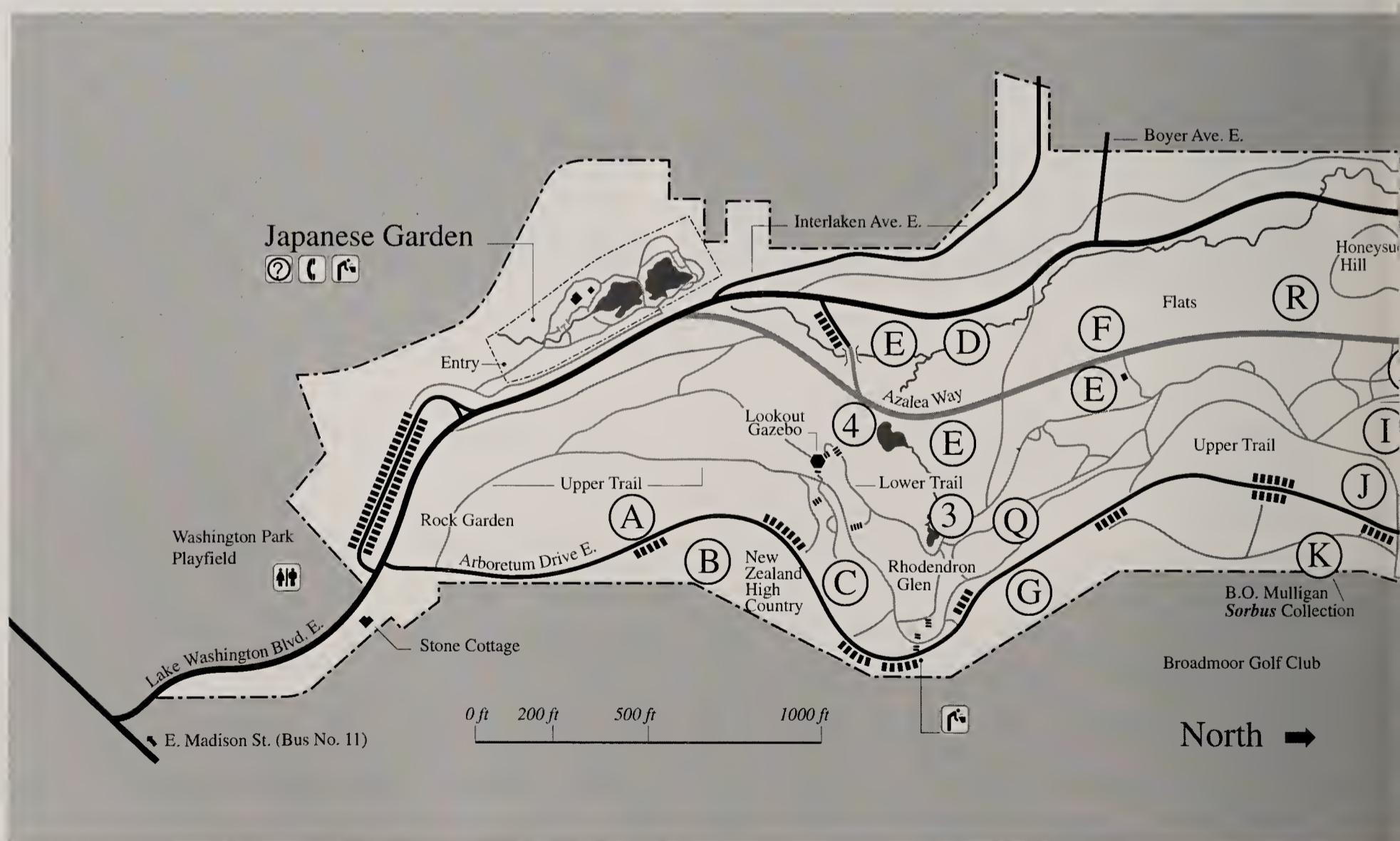
New Zealand High Country Exhibit, sponsored by the Seattle/Christchurch Sister City Committee and dedicated in 1993, is a small representation of Arthur's Pass on the South Island and contains a collection of New Zealand native plants.

The Pinetum, located on the west side of Lake Washington Boulevard East, contains many of WPA's oldest and largest conifers: pines, firs, spruces, and cedars.

Rhododendron Glen, planted on one of the largest hillside valleys of the Arboretum, features an active year-round stream, a large collection of species and hybrid rhododendrons, and a small pond surrounded by heaths and heathers.

Woodland Garden (includes Japanese maple collection) has two ponds. The surrounding valley contains more than 70 cultivars of Japanese maples, the largest collection of any public garden in the US.

Regen Dennis is public relations contractor to WPA.



Map of Washington Park Arboretum

Legend

- Streets
- Parking Areas
- Water
- Trails & Paths
- Steps
- Collections
- Information
- Restrooms
- Telephone
- Drinking Fountain
- Gift Shop
- Fences
- Marsh

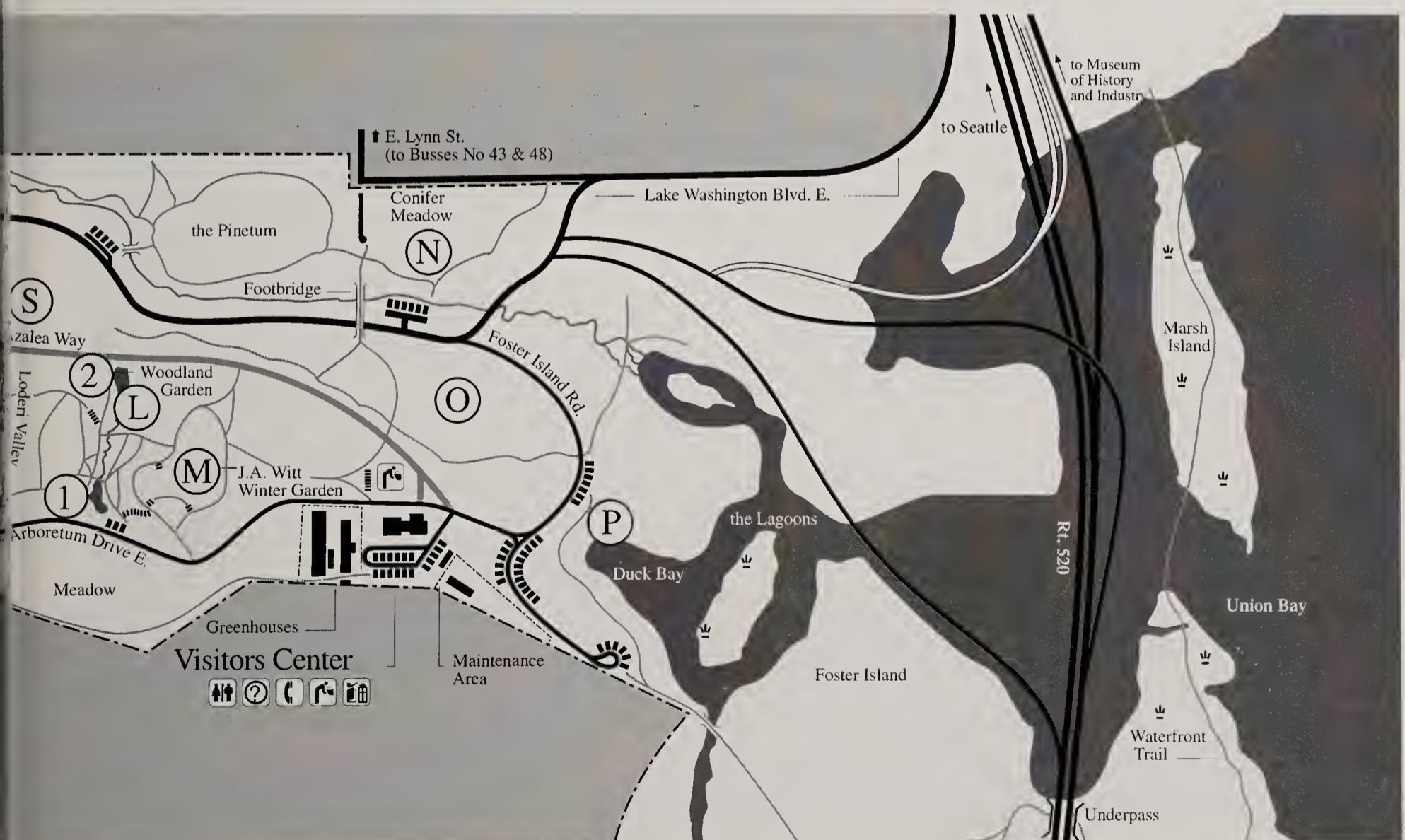
Ponds

- 1 Upper Woodland Garden
- 2 Lower Woodland Garden
- 3 Glen
- 4 Lookout

Collections

A Hollies	H Rhododendron Hybrids	O Oak Family
B Witch Hazel Family	I Asiatic Maples	P Lindens
C Camellia Family	J Magnolia Family	Q Rhododendrons
D Hawthorns	K Mountain Ash	R Olive Family
E Birches and Poplars	L Japanese Maples	S Walnut Family
F Larches	M Winter Garden	
G Legumes	N Crabapples	

Maps courtesy of WPA Curators' office.



Explore the Seasons: Self-Guided Tours

Each plant or collection in WPA has its own special attributes. Some trees or shrubs display in only one season. Others hold interest in more than one season, say for flower and color in spring, leaf in fall, and bark or silhouette in winter. In the following tours, you will see that many plants, especially those that bloom on the cusp of seasonal change, are claimed by more than one season for the same glory.

The following tours were designed by a landscape architect, WPA's collections registrar, a naturalist who has worked at WPA for many years, a nurseryman, and three long-time volunteer tour guides. Take all or part of each tour as you have time. You may see trees or shrubs that you would like to have for your own garden, so come back often to see how the plants you like differ from month to month or perform from location to location. Maps indicate plants within a 100×100 -square-foot area.

Spring

by Keith R. Geller

Spring is one of the most highly anticipated of seasons, and it usually keeps the promise it holds. We are fortunate in Seattle to usually have mild winters that allow us to anticipate spring just around the corner. With so many plants in bloom in the winter garden, the transition from winter to spring blooming is often difficult to discern. By mid to late March we can actually say, "This is spring." Begin your spring walk at the Graham Visitors Center; inside the center, flowering sprigs of currently blooming plants are usually on display to help wet flower-seeking appetites.



Keith Geller



OPPOSITE PAGE: *Trochodendron aralioides*, the hardy wheel tree, is good in Northwest gardens.

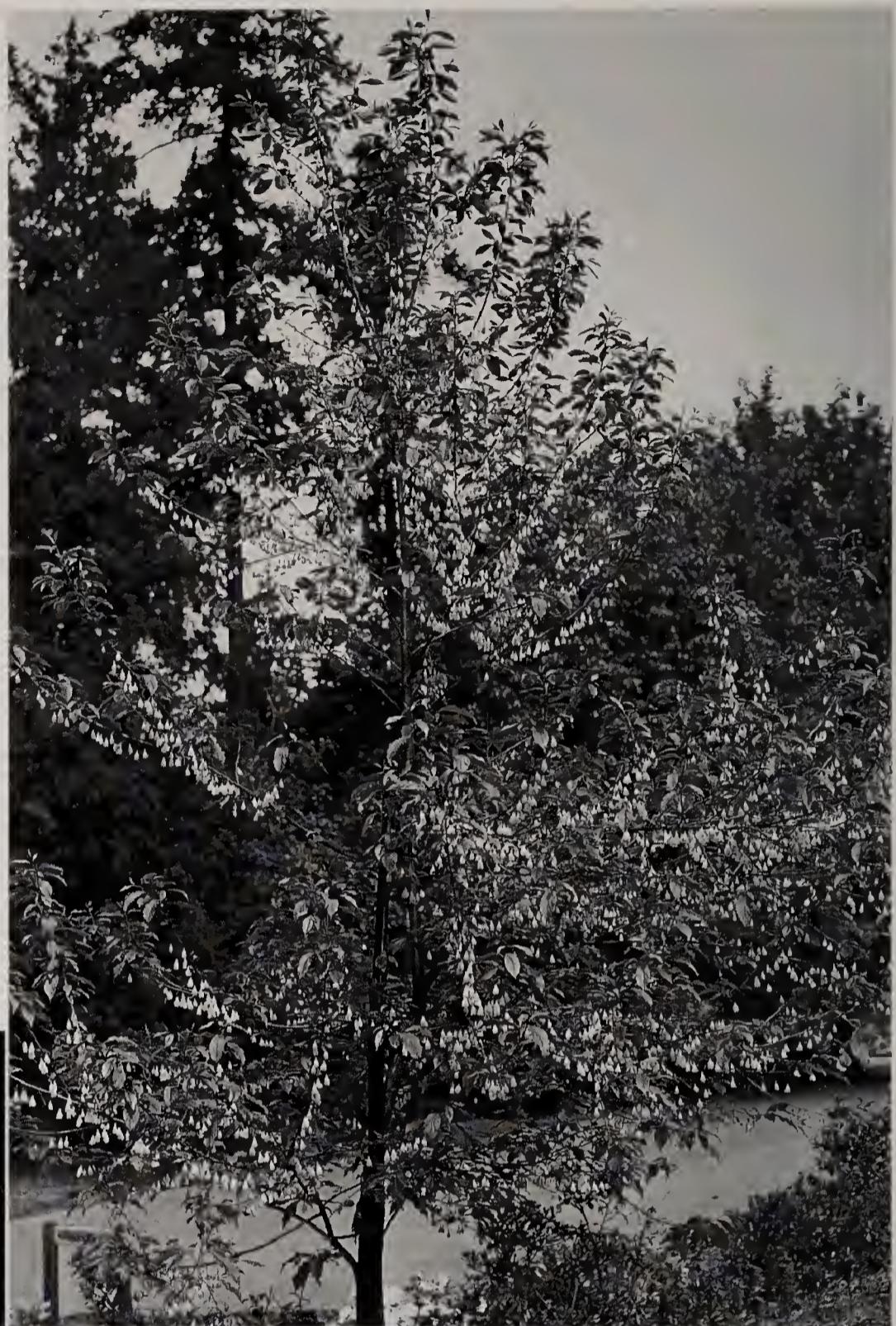
THIS PAGE: (above) *Liriodendron tulipifera*, (top)
Magnolia x soulangiana 'Lennei', (right) dove tree
Davallia involucrata var. 'vilmoriniana'.

Keith Geller





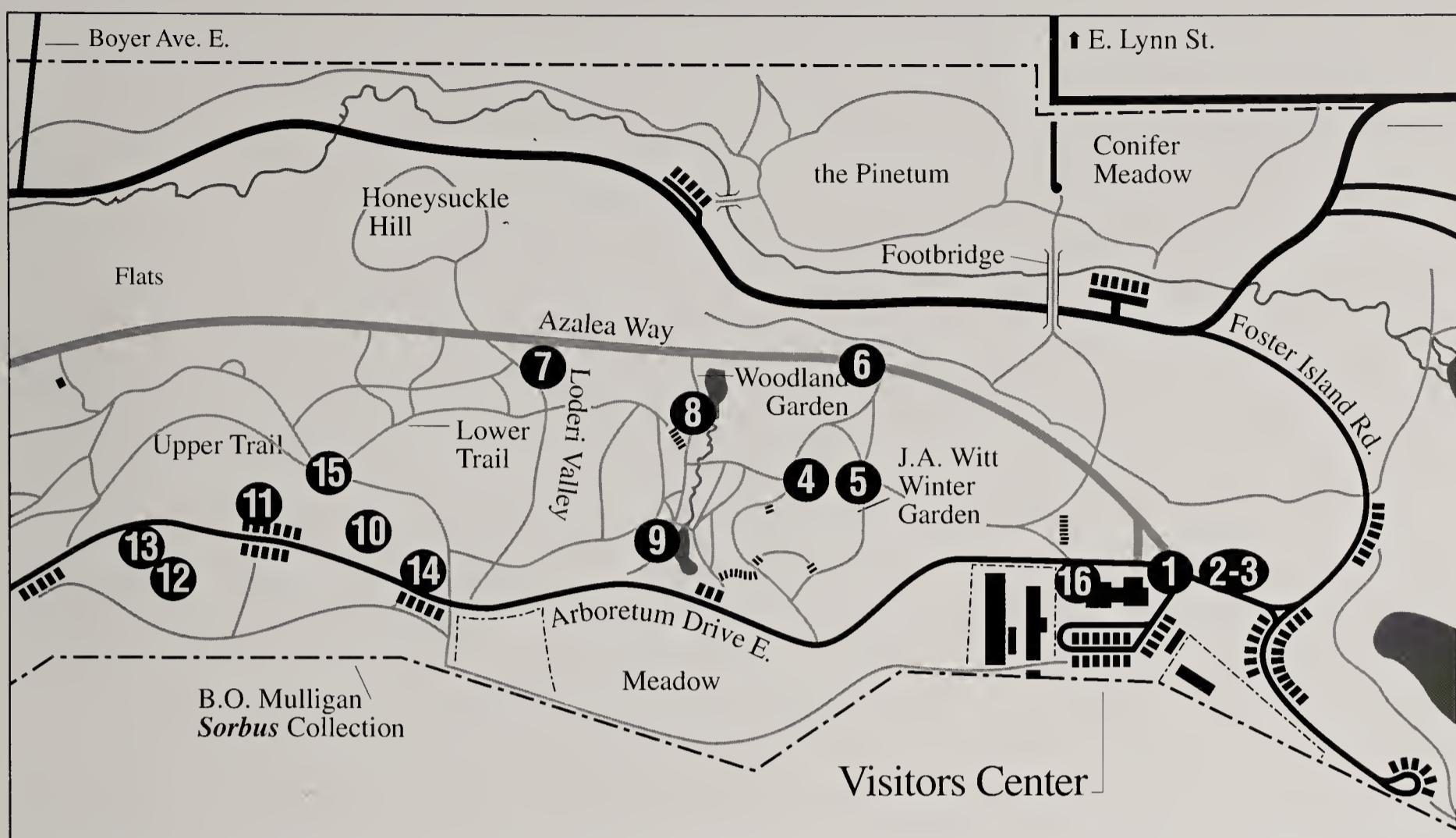
ABOVE AND RIGHT: *Halesia carolina*, also known as silverbell tree. BELOW: *Styrax obassia*, the fragrant snowbell, is a sign of spring.



E.F. Marten

Don Normark

Spring Tour



1. *Magnolia × soulangiana* 'Speciosa' – tulip-like white blooms flushed with pink and purple; 'Lennei,' purple and white
2. *Wisteria floribunda* – vine on western cedar with 24-inch-long purple flower panicles
3. *Oemleria cerasiformis* (Indian plum) – white flowers, green calyx
4. *Corylopsis pauciflora* – soft yellow flowers up and down the branches
5. *Sarcococca confusa* (sweet box) – evergreen shrub with glossy leaves, for shade
6. *Cornus 'Eddie's White Wonder'* dogwood
7. *Halesia carolina* – tree with pendulous pale pink bell-shaped flowers
8. *Styrax japonicus* (Japanese snowbell) and *S. obassia* (fragrant snowbell) – panicles of bell-shaped white flowers with yellow centers on popular shrub
9. *Liriodendron tulipifera* – inverted greenish tulip-shaped flowers on medium-sized tree
10. *Magnolia salicifolia* – six pure white flowers per flower, lance-shaped leaves
11. *Davidia involucrata* (dove tree) – white flowers look like white handkerchiefs or doves
12. *Cistus × populifolius* (rock rose) – small rose-like white flowers on spreading bush
13. *Quercus suber* (cork oak) – cork oak tree
14. *Magnolia wilsonii* – sweet fragrance, white flowers
15. *Trochodendron aralioides* (wheel tree) – elliptical leaves, wheel-like way in which the stamens radiate like spokes
16. *Akebia quinata* – vine on arbor in front of Visitors Center parking lot entrance, pale purple sepals and dark chocolate purple flowers



Magnolia wilsonii

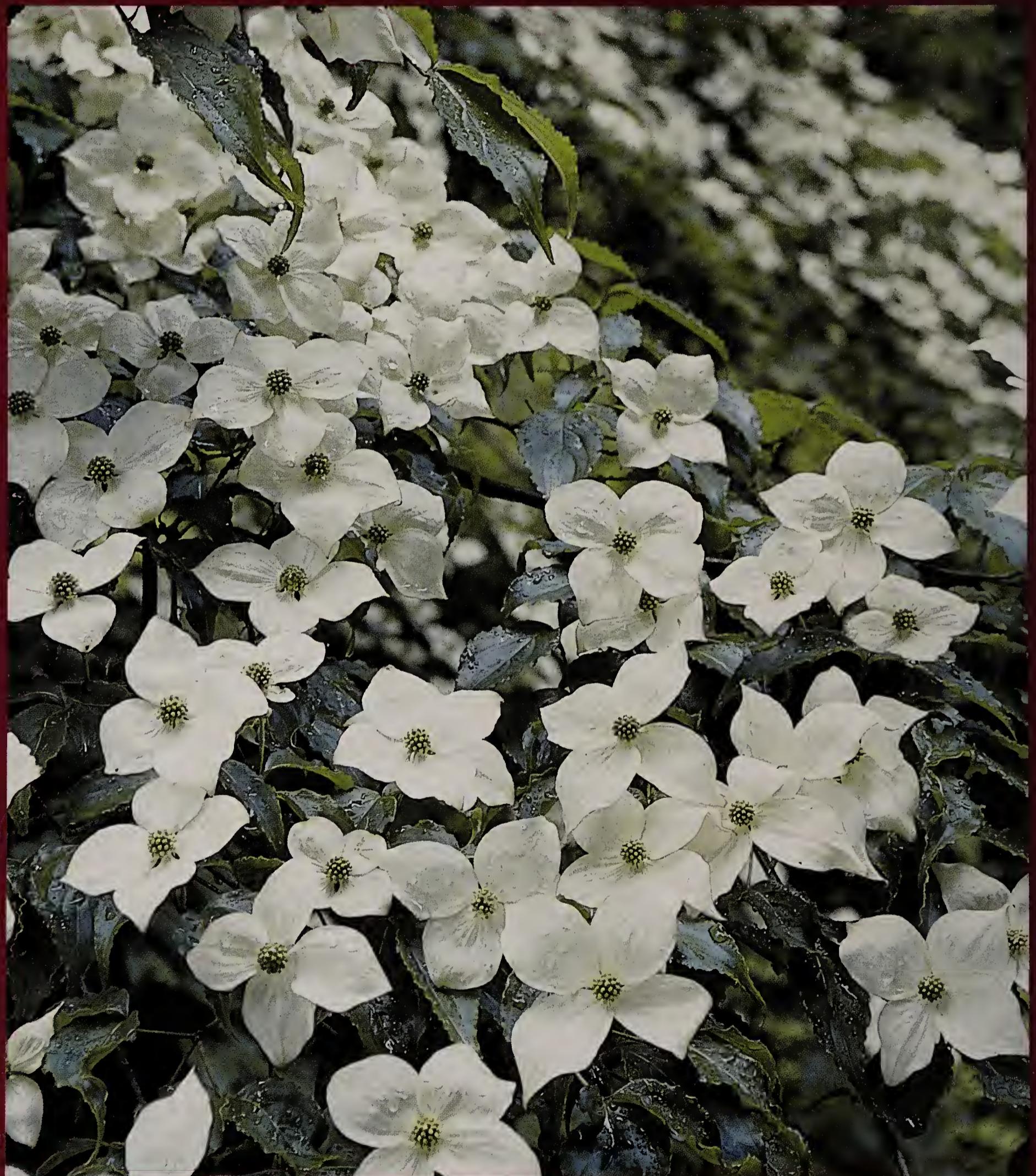
Keith Geller is a landscape architect and college instructor. He is a member of the boards of The Arboretum Foundation and Seattle Audubon Society.

Summer

by Tracy Omar

photos by Joy Spurr

Summertime is wonderful in WPA to walk, with cooling shade and the many textures and colors of foliage to view. But after the spectacular flower show of spring, the flowers of summer may seem like they would be rather sparse. When you take the time to look, however, there are many flowers throughout the grounds. They are not everywhere, as they are in spring, nor are they concentrated into a particular garden, as they are in winter. But a summer tour through WPA yields many rewards.

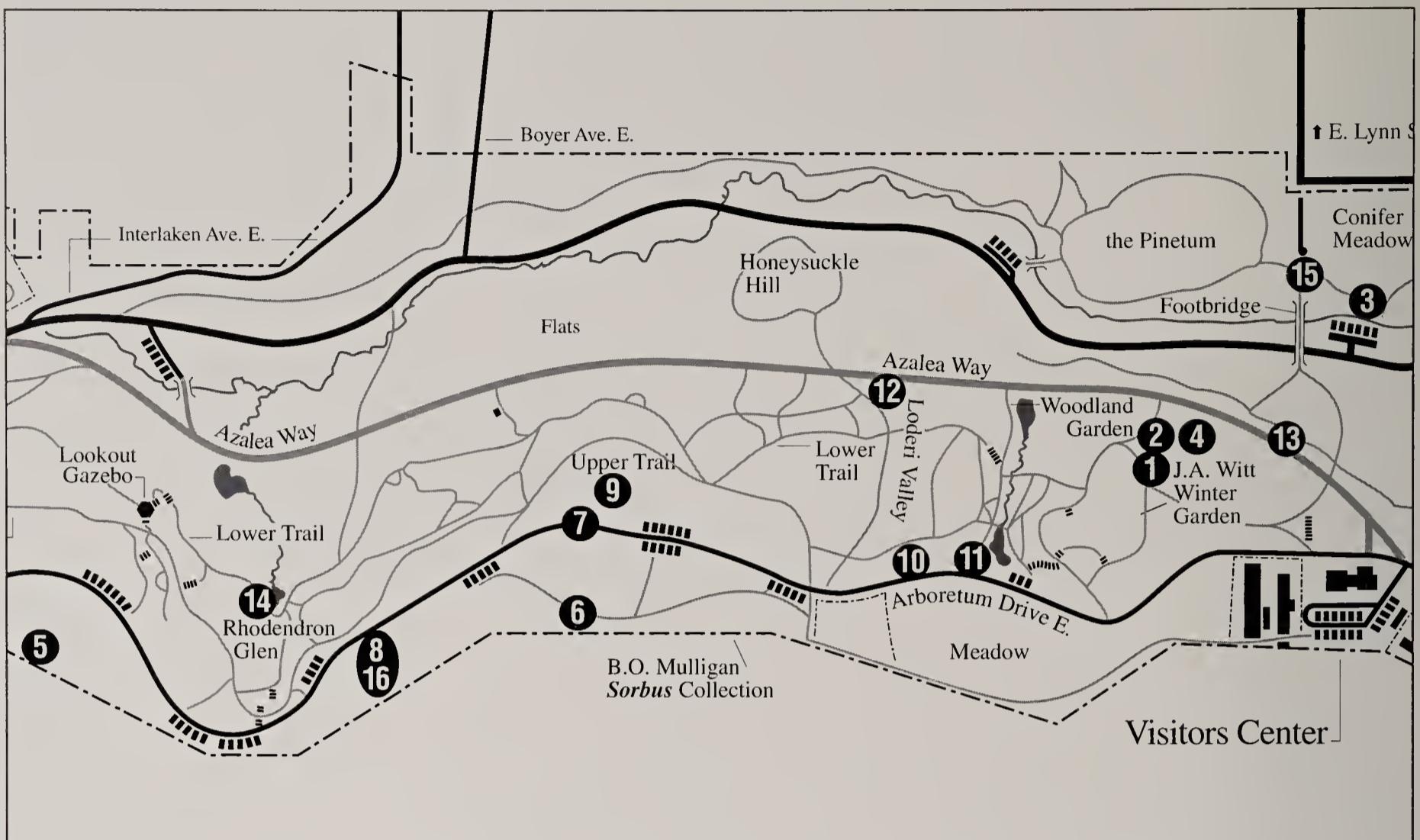




OPPOSITE PAGE: Korean dogwood (*Cornus kousa*).

THIS PAGE: (top) silk tree (*Albizia julibrissin*), (above) spice bush (*Calycanthus occidentalis*), (right) golden chain (*Laburnum × watereri* 'Vossii').

Summer Tour



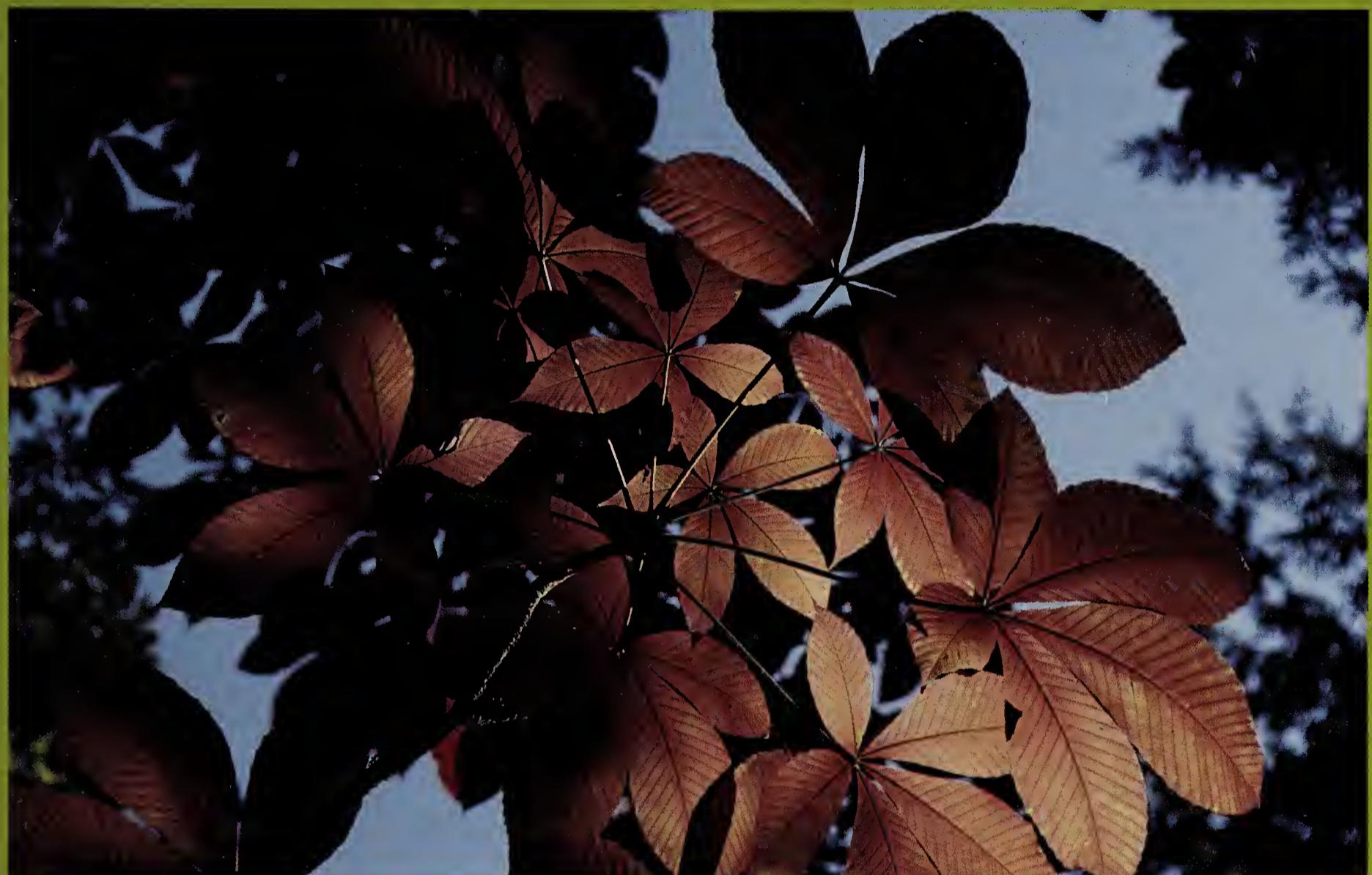
1. *Stewartia monadelpha* (orangebark stewartia) – white flowers, orange bark
2. *Hydrangea petiolaris* (climbing hydrangea) – in a Douglas-fir
3. *Hydrangea macrophylla* (hydrangea) – white, blue, and pink cultivars of rounded hydrangea blossoms
4. *Pterostyrax hispida* (epaulette tree) – white flowers borne in eight-inch pendulous panicles
5. *Buddleia davidii* (butterfly bush) – small fragrant lilac or white flowers in dense arching clusters
6. *Deutzia scabra* (deutzia) – ten feet tall with pinkish white flowers, and *Philadelphus coronarius* (mock orange) – white flowers on ten-foot shrub
7. *Albizia julibrissen* (silk tree) – tropical-looking trees have fluffy pink feather-duster-like flowers
8. *Cladrastis lutea* (yellow wood) – deciduous tree with pendulous clusters of fragrant white flowers
9. *Magnolia macrophylla* (bigleaf magnolia) – huge white magnolia flowers and huge leaves
10. *Calycanthus occidentalis* (spice bush) – shrub with two-inch reddish flowers resembling small water lilies, fruity fragrance
11. *Crataegus × lavallei* ‘Carrierei’ (Carriere hawthorn) – white flowers
12. *Cornus kousa* (Kousa dogwood) – later blooms than other dogwoods with showy three-inch creamy white bracts surrounding insignificant yellow flowers
13. *Styrax obassia* (Japanese snowbell) – thirty-foot tree with pure white pendulous flowers
14. *Ruscus hypoglossum* – a shrubby lily; leaves are actually flattened stems, flowers on their upper surface
15. *Catalpa bignonioides* (Indian bean) – deciduous tree to fifty feet with large upright clusters of trumpet-shaped white flowers borne above eight-inch-long heart-shaped leaves
16. *Laburnum × watereri* ‘Vossii’ (golden chain tree) – fourteen-inch-long clusters of small yellow flowers

Tracy Omar is registrar and assistant curator of the Washington Park Arboretum.

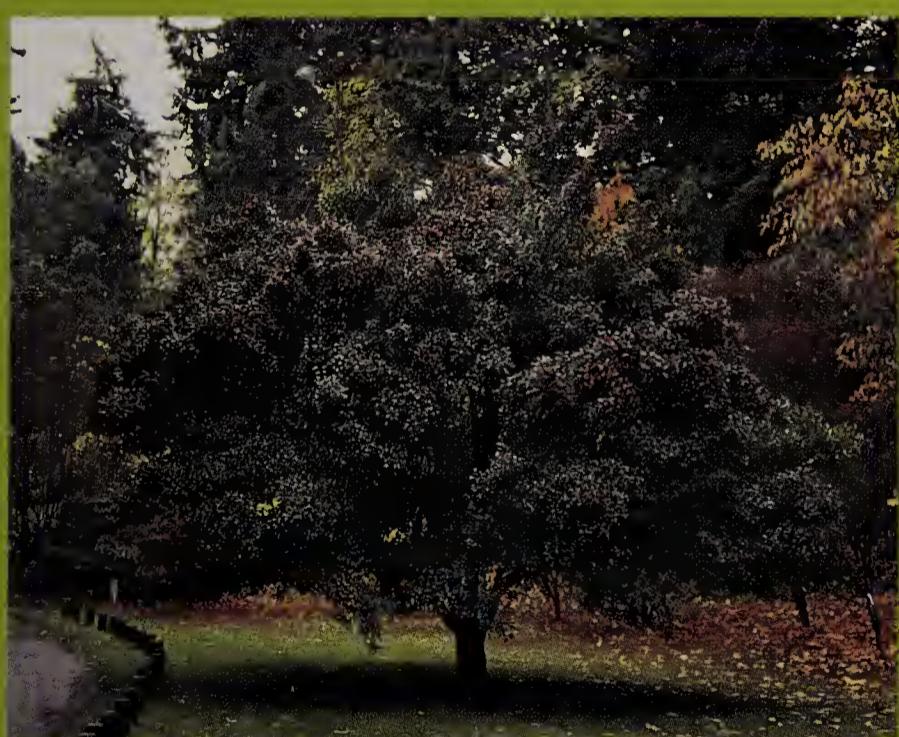
Autumn

by Jan Pirzio-Biroli

Autumn, by definition, covers the three months from late September through early December. However, from the point of view of plants and gardens, it begins some time at the end of summer when all growth has stopped, when leaves have begun to turn color, and when trees and shrubs have formed their fruits and berries. The season continues until the last leaves have fallen, the last fruits have been distributed or devoured, and temperatures have dropped to freezing. By that time, autumn has been succeeded by winter.



Keith Geller



Joy Spurr



Joy Spurr

TOP: Yellow buckeye (*Aesculus flava*). ABOVE: Carriere's hawthorn (*Crataegus × lavallei 'Carrierei'*). RIGHT: Persian ironwood (*Parrotia persica*).



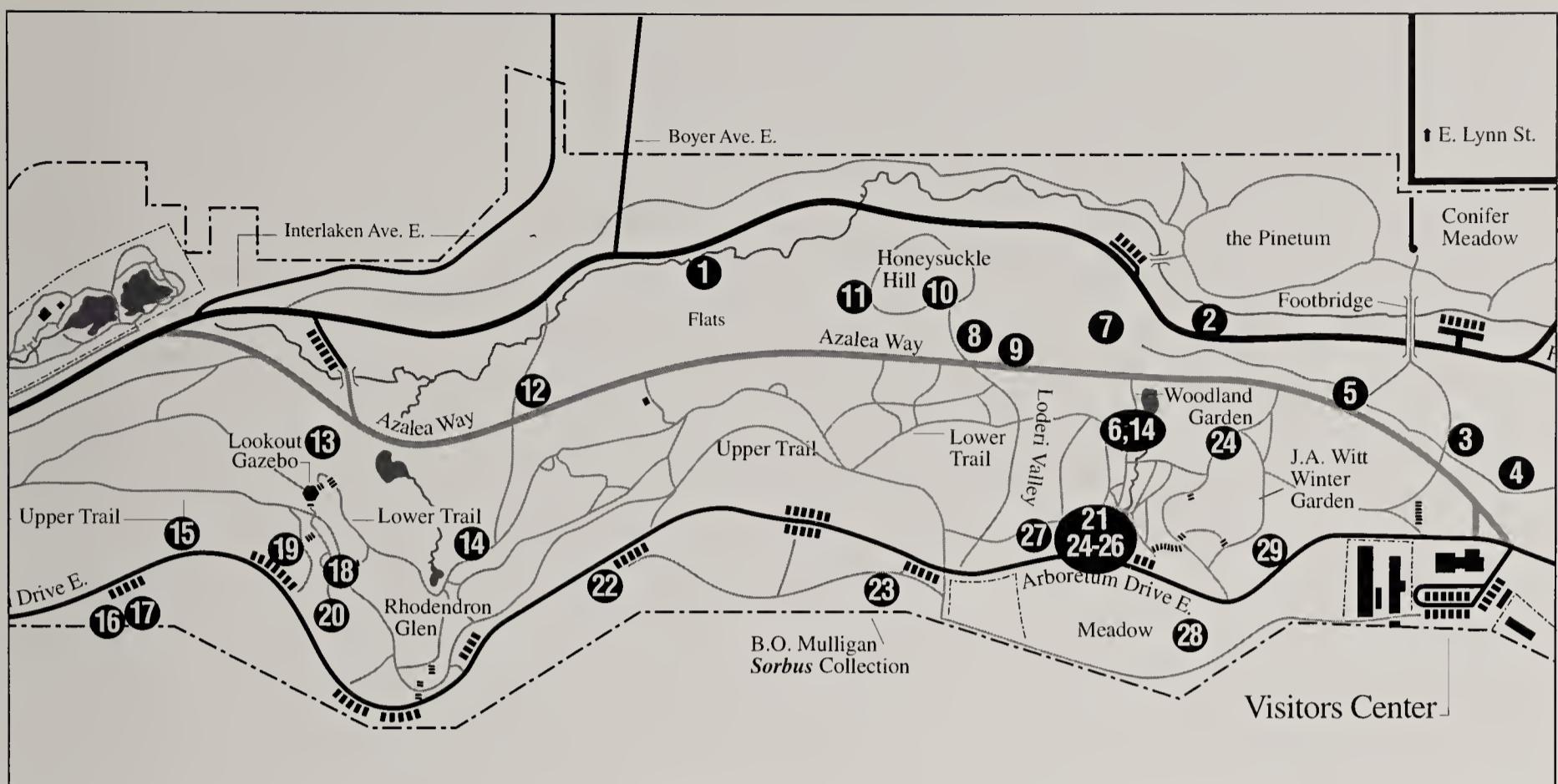
ABOVE: Clusters of *Sorbus koehneana* fruit (white with pink sepals). LEFT INSET: Chinese wing-nut (*Pterocarya stenoptera*).



Jan Pirzio-Biroli

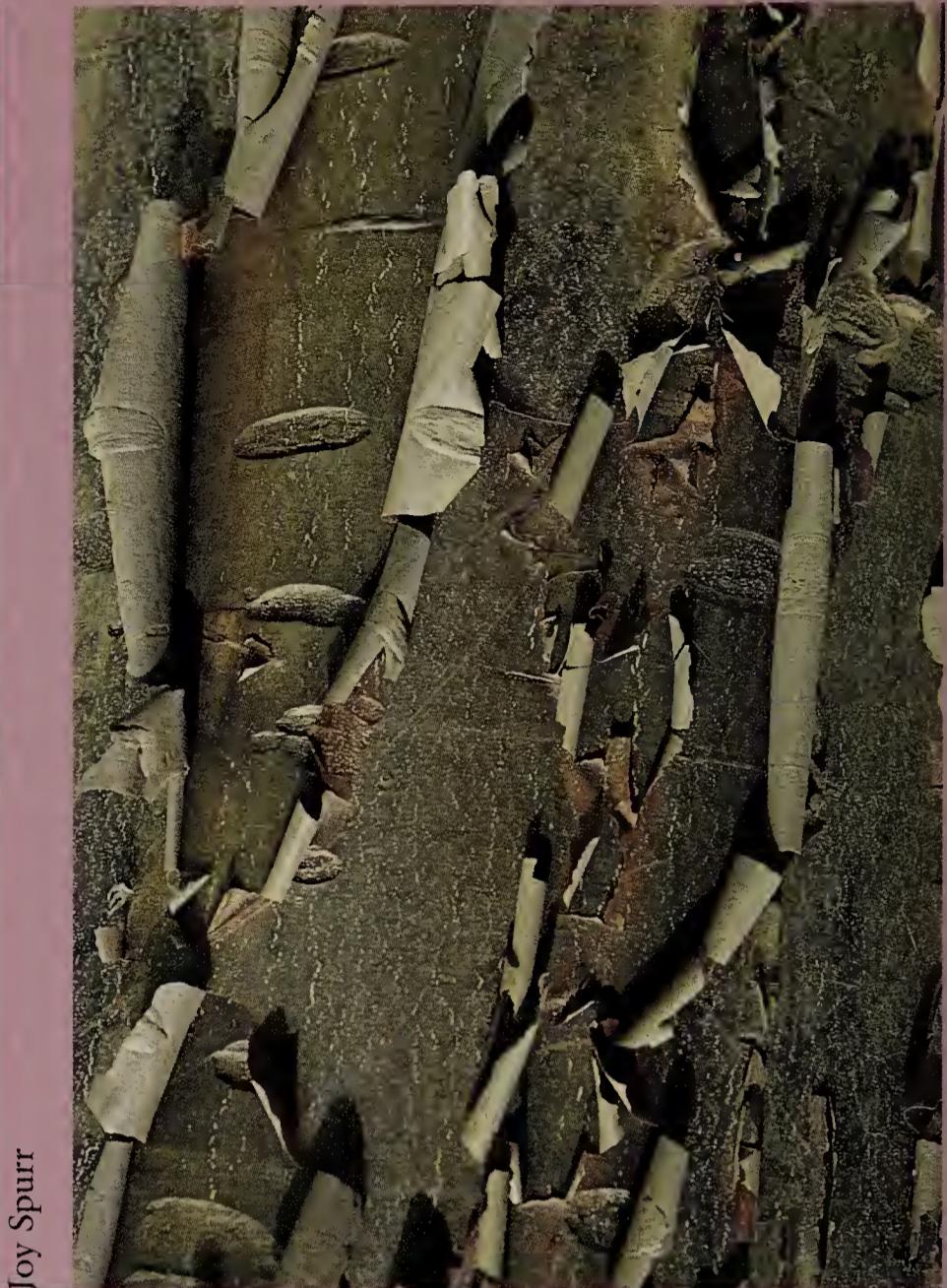
1. *Aesculus flava* (horse chestnut, sweet buck-eye) – scarlet foliage
2. *Metasequoia glyptostroboides* (dawn redwood) and *Taxodium distichum* (bald cypress) – deciduous conifers
3. *Quercus* collection (oak), colorful autumn leaves
4. *Nyssa sylvatica* (tupelo, black gum) – peach or scarlet foliage; small dark blue fruits
5. *Prunus subhirtella* ‘Autumnalis’ (autumn flowering cherry) – pink flowers from autumn through winter
6. *Liquidambar styraciflua* (sweet gum) – autumn foliage reflected in lower woodland pond

Autumn Tour



- 7. *Acer rubrum* (red maple) – colorful foliage, often scarlet; various cultivars
- 8. *Pterocarya stenoptera* (Chinese wing-nut) – hanging racemes of winged brown seeds, contrasting with yellow foliage
- 9. *Prunus sargentii* (flowering cherry) – orange to scarlet foliage
- 10. *Lonicera* spp. (honeysuckle) – colorful fruits, including *L. quinquelocularis* with translucent white (gooseberry-like) fruits
- 11. *Viburnum opulus* (highbush cranberry) – juicy red fruits
- 12. *Cornus* species (red osier dogwoods) – purple or white fruits, purple foliage (usually complemented by reddish stems)
- 13. *Amelanchier* spp. (serviceberries) – one to two weeks of soft-colored foliage (yellow, orange, pink)
- 14. *Enkianthus campanulatus* – brilliant foliage ranging from orange to scarlet
- 15. *Ilex* collection (holly) – red to yellow fruits
- 16. *Hamamelis* (witch hazel) – various colored autumn foliage
- 17. *Parrotia persica* (Persian ironwood) – apricot to crimson foliage
- 18. *Camellia* section – fall flowers (pink and white)
- 19. *Stewartia monadelpha* – mauve foliage and cinnamon-colored, shredding bark
- 20. *Franklinia alatamaha* – small white camellia-like flowers at same time as scarlet foliage
- 21. *Oxydendrum arboreum* (lily-of-the-valley tree) – green fruiting clusters against scarlet foliage
- 22. *Sassafras albidum* var. *molle* – varied fall foliage (yellow, orange, pink)
- 23. *Sorbus* collection (mountain ashes, rowan) – orange, red, white fruits and colorful fall foliage
- 24. Woodland Garden, including many cultivars of Japanese maple (*Acer palmatum* and *A. japonicum*) – colorful foliage
- 25. *Crataegus × lavallei* ‘Carrierei’ (Carriere hawthorn) – orange fruits complemented by similarly colored foliage
- 26. *Hamamelis virginiana* (Virginia witch hazel) – lemon-colored flowers and yellow foliage
- 27. *Cercidiphyllum japonicum* (katsura tree) – coral-colored autumn foliage
- 28. *Malus* cultivars (crab apples) – fruit and foliage in autumn colors
- 29. *Pyracantha* (firethorn) hedge – red and orange fruits

Jan Pirzio-Biroli has been a naturalist with WPA and is an advisor to the *Arboretum Bulletin*. She is a member of The Arboretum Foundation board of directors.



Joy Spurr

Joy Spurr

Winter

by Daniel J. Hinkley

Bitten by cold winds and angry rains, our spirits are dimmed in winter without the daily recharging by intimate association with our gardens. Herbaceous borders are flattened and dulled in tones of dun-colored earth, while the woody component of our landscapes waits with vacant expression for the stirrings of spring. During this dour season I look about me for inspiration from borrowed landscapes. Though I savor engaging winter scenes wherever I may be, it is the off-season images within the bounds of the Arboretum that most often provoke emotions that soothe and inspire me. A walk around the Joseph Witt Winter Garden is self-explanatory and delightful in winter. In addition, you can stroll quiet trails that foster resolve that can slay the sloth of winter, while granting brief encounters of immeasurable pleasure.

(*Winter Tour, continued on page 32*)



Keith Geller



Joy Spurr



Joy Spurr

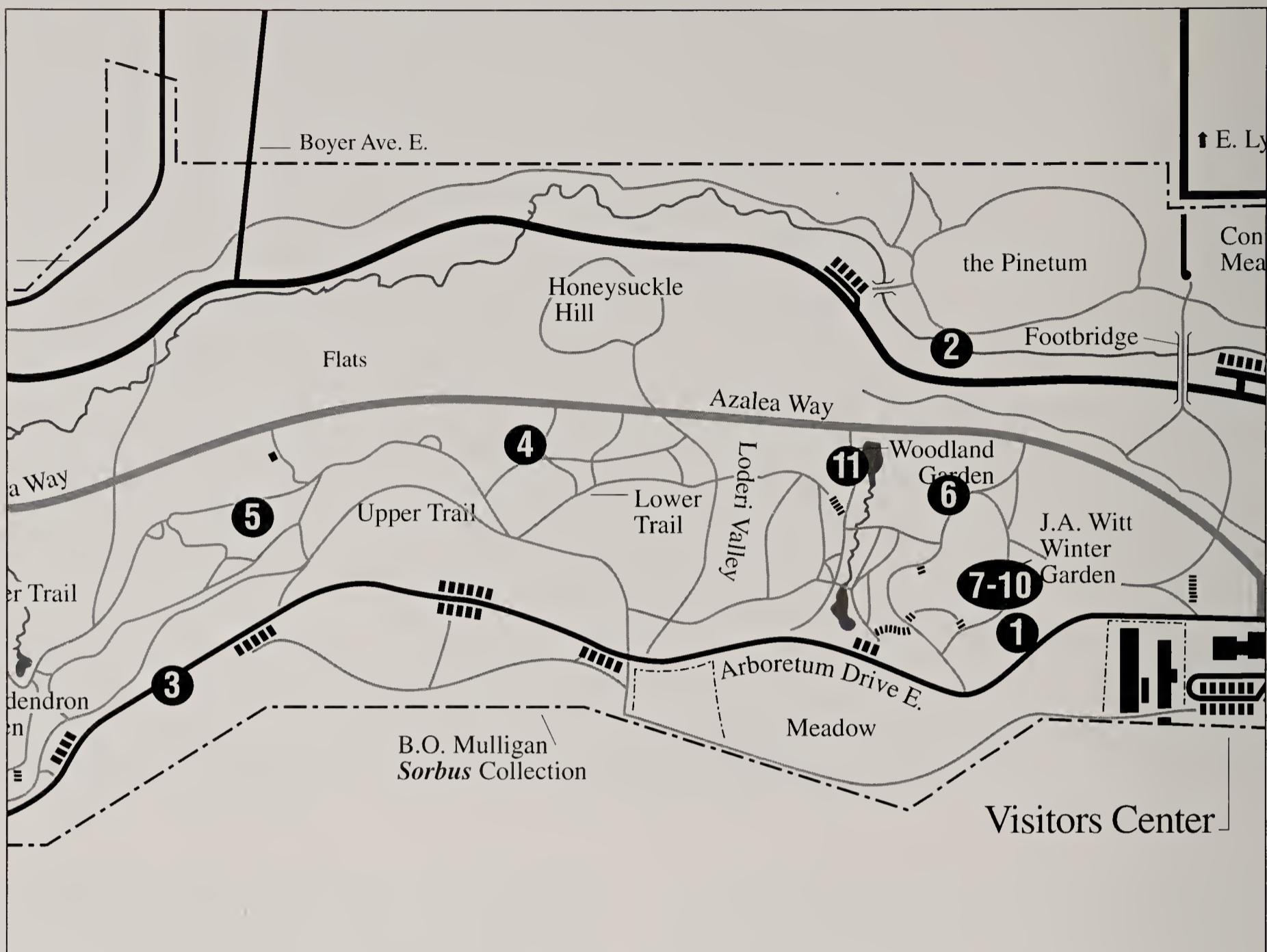


Joy Spurr

OPPOSITE PAGE: (upper left) textural barks of dawn redwood (*Metasequoia glyptostroboides*) and (upper right) *Acer griseum*. (lower right) *Stachyurus praecox*, February's sign of spring.

THIS PAGE: (top) *Helleborus × hybridus*, (lower left) *Mahonia × 'Arthur Menzies'* (which was selected at WPA), (above) *Rubus biflorus* var. *quinqueflorus* and red-twigged dogwood with *Carex morrowii* grass contrasting in foreground.

Winter Tour



1. *Sarcococca ruscifolia* and *S. confusa* (sweetbox) – fragrant flowers in mid-winter, dark evergreen foliage, black and red berries, respectively, and fragrant flowers
2. *Metasequoia glyptostroboides* (dawn redwood) – foxy red needles, superbly fluted and cavernous trunk
3. *Acer tegmentosum* (Manchurian stripe bark maple) – brilliantly striated stems of white and green
4. *Acer griseum* (paper bark maple) – copper and crisply bronzed applique of exfoliating outer bark
5. *Corylus avellana* ‘Contorta’ (Harry Lauder’s walking stick) – spirally contorted bare branches and drooping yellow catkins
6. *Rubus biflorus* var. *quinqueflorus* – brilliant white-washed thorny stems, perfectly combined with the red-twiggled dogwood
7. *Camellia × williamsii* – large red or pink camellias which fall off when finished

- flowering rather than being retained on the branches as in *C. japonica*
8. *Mahonia ‘Arthur Menzies’* – Evergreen mahonia with spiny compound leaves and erect panicles of yellow flowers in mid-winter followed by blue fruit in summer
9. *Helleborus × hybridus (orientalis)* (Lenten rose) – rosettes of palmately compound evergreen foliage and rich white, yellow, pink, or red flowers arising on stems from the ground level in February
10. *Stachyurus praecox* – drooping spikes of yellow from arching burgundy stems
11. *Salix fargesii* – a willow with stout, upright burgundy stems and swollen claret-colored buds.

Daniel J. Hinkley is co-owner of Heronswood Nursery, Ltd., Kingston, Washington. He is a popular lecturer and teacher and the author of *Winter Ornamentals*, published by Sasquatch.

Beautiful Bark

by Tracy Omar

The bark of trees adds interest to the garden, especially in winter when leaves of deciduous species have fallen. While planning your garden, use the Arboretum to find many woody plants whose bark adds colors and textures to complement or replace those of other plant features. Use the *Woody Plant Collection* catalog to locate these excellent bark specimens throughout WPA.

- *Acer capillipes* (stripebark maple)
- *Acer griseum* (paperbark maple)
- *Acer palmatum* ‘Sango Kaku’ (coralbark maple)
- *Acer pensylvanicum* (striped maple)
- *Acer rufinerve* (red-vein maple)
- *Acer tegmentosum* (Manchurian stripebark maple)
- *Betula albo-sinensis* var. *septentrionalis* (Chinese red birch) – rusty and peeling
- *Betula ermanii* (gold birch) – yellow and peeling
- *Betula jacquemontii* – white, peeling bark
- *Betula platyphylla* – white and peeling
- *Cornus kousa* (Kousa dogwood) – mottled beige
- *Cornus stolonifera* (red-stemmed dogwood)
- *Lagerstroemia* ‘Natchez’ (crape myrtle) – soft mottled brown
- *Metasequoia glyptostroboides* (reddish-brown, pitted)
- *Pinus resinosa* (American red pine)
- *Prunus serrula* (birchbark cherry) – exotic metallic bronze or burnished copper bark
- *Quercus suber* (cork oak)
- *Rubus biflorus* var. *quinqueflorus* (whitish-gray)
- *Salix alba* var. *sericea* (silver willow)
- *Sequoiadendron giganteum* (giant sequoia) – pitted and cork-like
- *Stachyurus praecox* – red wine-colored stems



Prunus serrula bark.

Brian Mulligan

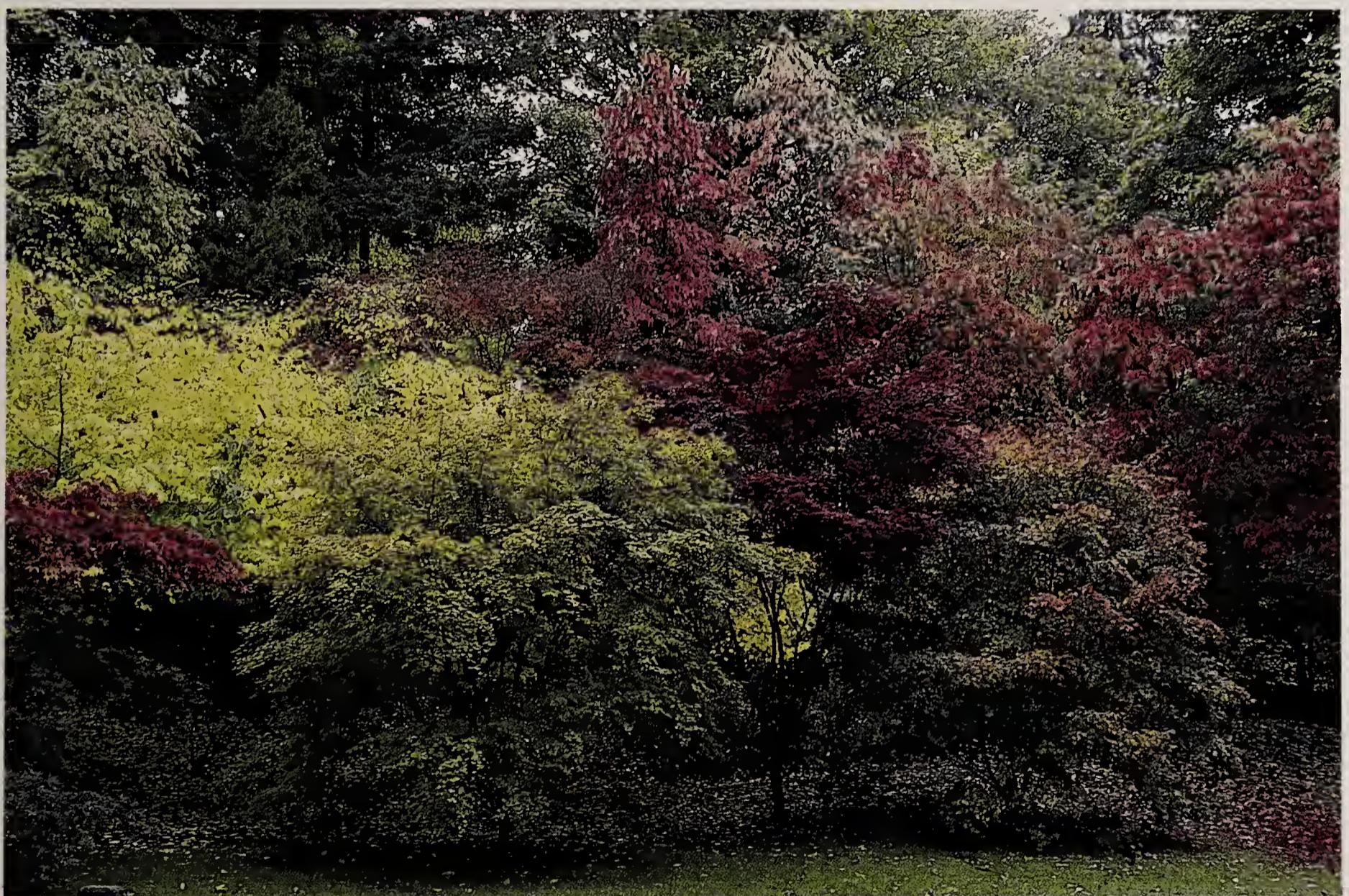
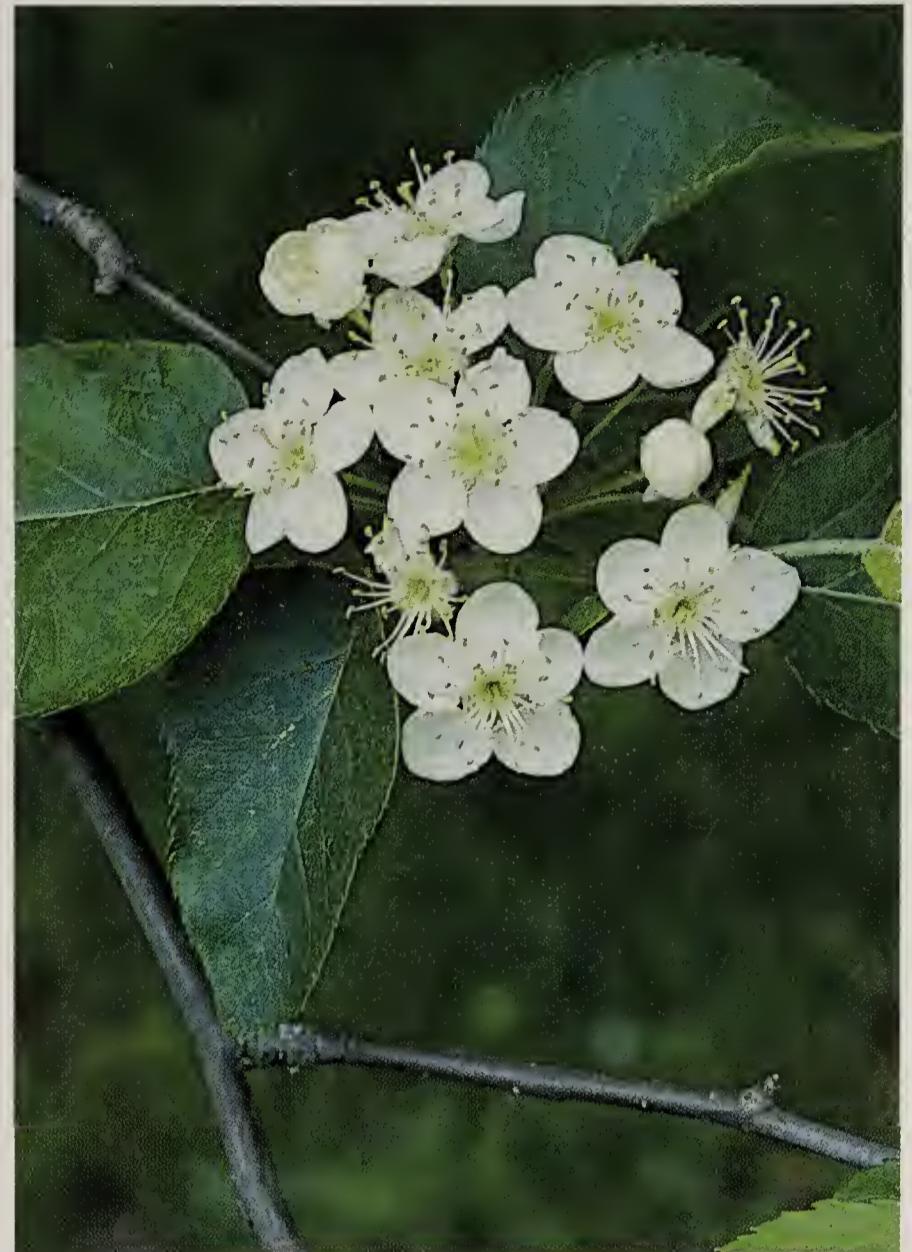
A Trail for All Seasons – Arboretum Highlights

by Jeannine Curry

photos by Joy Spurr

We are fortunate to live through four traditional seasons. The same trails followed at different times will prove that a wise Mother Nature does not allow any of her children to show off day in and day out. While some plants hardly change—yet are so dependable—others will display their special effects of bark, flower, foliage, and leaves at different predetermined times. You can start a tour of the Arboretum anytime, from winter when we see the plants *au naturel*, to the height of fall color.





OPPOSITE PAGE: Mountain ash (*Sorbus cashmiriana*) in May.

THIS PAGE: (top left) Japanese dogwood (*Cornus kousa*) fall fruit; (top right) Oregon crab apple (*Malus fusca*) flowers, in May; (bottom) a fall scene in the Woodland Garden: maple and oxydendron.

Start at the west entrance to the Graham Visitors Center, and cross over Arboretum Drive East to the wide trail.

Within forty feet, find *Malus fusca* (Oregon crab apple), a bonus in winter because this sprawling specimen with a tortuous trunk is any child's dream of a climbing tree.

Stay on the trail for several blocks. At the Winter Garden sign, go left; before the next curb stand two sentinels: *Ulmus camperdownii*, products of grafting. The crowns are a web of entangled limbs (witch broom) from which stiffly crooked branches dangle all the way to the ground, a bit like Whoopi Goldberg's hair. The thick green leaves of summer, however, transform it into a giant green umbrella.

A little further, continue down the path that overlooks the Woodland Garden pond: Varieties of *Acer palmatum* (Japanese maple) grow on the slopes; they seem almost frail in winter, but each tree has leaves of different colors in spring, be it yellow, green, or red. The diversity is still apparent in the fall.

On the hill, when the trail turns sharply downward to the left, pass an *Acer davidii* on the left, and notice its olive-green, strongly veined trunk. The protruding branches mingle with some blackish ones, those of *Lindera obtusiloba*. The light yellow of its March blooms are found again in the fall foliage. Beyond the *Lindera* tree stands a good performer for small gardens: *Cornus kousa*. The horizontal limbs of this dogwood are almost symmetrical; in June and July, white flowers sit on top of the branches, followed in autumn by erect red, round fruits, like Christmas tree ornaments, while the leaves rival their color.

Continue to the bottom of the hill, and cross the bridge over the small stream where the skunk cabbage's trumpet-shaped open yellow flower appears in April. Turn east (left) and walk until you reach the nearest edge of the grassy area along Arboretum Drive. On the left there are only bare branches in winter, but a feast for the eyes awaits in October when you will find the following trees (all labeled) taking their final bows: varieties of *Acer palmatum*, *Oxydendrum arboreum* (sourwood; at the edge of the grassy area), and the stately *Crataegus × lavallei* 'Carrierei', a popular hawthorn in all seasons in the middle of the grassy area. The glossy green leaves of the hawthorn cannot hide the profuse orange-to-red bright fruits in fall.



Proceed south (right) on Arboretum Drive for half a block. At the west edge of the grassy clearing, just north of the large cedar, find a shrub with flaring yellowish twigs in winter, bushy leaves in spring and summer. *Calycanthus occidentalis* (spice bush) is a primitive plant which, in summer, gives birth to fragrant maroon lotus-shaped flowers contrasting with the thick aromatic leaves.

Just across the street, take a look behind the fenced nursery area at *Magnolia macrophylla* (bigleaf magnolia), with downy beige meandering branches (the usually stiff tree was too crowded in its youth). In the summer, it has a tropical appearance with twenty-inch-long light green leaves. The buds, shaped like inverted pears, burst into spectacular twelve-inch white blooms with purple markings at the base. Throughout winter, the ground underneath is covered with ghost leaves.

Note the long, tall row of *Tsuga canadensis* (Canadian hemlock) along the drive and follow it south past the next parking lot. Looking east, you will see the sign that marks the entrance to the Brian O. Mulligan *Sorbus* (mountain ash) Collection. Next to you on the right (south) end of the parking lot is a *Picea brachytyla* (Sargent spruce) near the "No Parking—Service Vehicles Only" sign. This evergreen is worthy of visiting during winter or summer. In July, the tip of the branches bear three-inch-long, bright red male cones, while the smaller female brown cones hide in the branches. This is not, however, a yearly event.

Follow the path through the *Sorbus* collection, which displays a wide variety of sizes and shapes. The airy *Sorbus cashmiriana* is left of the "Flower to Fruit" sign. It has a delicate branching pattern of fern-like compound leaves, turning red in autumn, with the bunched white fruits remaining on the trees until the birds discover them.

Go past another sign announcing the *Sorbus* collection from its southern entrance, and go east into the Mediterranean area. Head directly to the bed near the roadside. Although your eyes are not drawn to the small evergreen tree, *Quercus suber*, get close to it and look at the two-inch-thick bark. This cork oak is grown for commercial purposes in Spain and Portugal and will produce a new skin seven years after harvest.

Back on the road south, the *Sequoiadendron*

dron giganteum (giant sequoias) overlook the park. Stand near their trunks and look up: Their height is dizzying. A little farther down the road, on the same side, is etched the silhouette of *Sassafras albidum*, which has a conical shape and flexuous limbs and twigs. The mitten-shaped leaves, almost concealing the small yellow blooms in spring, turn vivid orange and red in the fall.

Across the road, continue several trees past the labeled *Acer davidii*. At the next bend on the east side, is a large dove tree, *Davida involucrata*; its brown fruits from autumn still dangle from the branches during winter. In May, white flowers shaped like two triangles flutter in the breeze like dove wings.

Cross the street, continue round the bend, and look into a recess on your right for a tree with a few wires holding up its branches—*Franklinia alatamaha*. It chooses to produce its camellia-like white flowers with long gold stamens in late summer, at the same time the glossy leaves turn dark red. Just before the double parking lot and past the camellia sign, enter the right branch of the trail. At the edge of the clearing is the trunk of *Stewartia pseudocamellia* (Japanese stewartia), variegated like a military camouflage uniform. A little farther on, the bark of the *Stewartia monadelpha* (orangebark stewartia) shines like mahogany. The white flowers bloom in succession in June and July, followed by a rich coloring of leaves in autumn.

Follow the trail to the right, past two trunks of another *Stewartia pseudocamellia*. At the edge of the clearing is *Magnolia 'Diva'*. At the branch of the path turn right, then left down the hill past the stream and pond. You will then be on a flat area, Azalea Way.

Almost directly across from the pond (west), several venerable *Prunus serrula* trees (birchbark cherry) have bare, gnarled branches, like some very old fingers. Their trunks still have vestiges of satin ribbon-like wrappings. But, when first planted they were like the two young upstarts fifty feet north, with incredible shiny and silky trunks from top to bottom. Continue north thirty feet past the young cherry trees, to the east side where the birches are kings: two *Betula papyrifera* var. *commutata* with the white-washed looking trunks and the *B. albo-sinensis* var. *septentrionalis* with flesh-colored bark.

It is quiet in winter wandering north on

Azalea Way, but in spring and fall there is an explosion of colors in the hedge of flowering cherry trees and azaleas. Glance at the entrance of the Loderi Valley trail, near its sign; in April, the tall, smooth, black trunks of rhododendrons will form an arch surmounted by trusses of large pink flowers in various shades.

Walk several blocks to the next pond; all the trees on each side of Azalea Way are almost indistinguishable in winter, but that is where autumn has its last hurrah. On the west side, a tall, yellow *Carya laciniosa* (shellbark hickory) serves as a background for two *Acer rubrum* (red maple). On the west side, at the south end of the pond, sprawls a very broad *Acer palmatum*, the most brilliant of all maples. But the star of the fall show is towering at the east

end of the pool: a *Liquidambar styraciflua* (sweet gum) with exuberantly colored leaves of yellow, red, orange, lavender, and almost black. A photographer's dream!

Continue northward: It is truly why Azalea Way deserves its name.

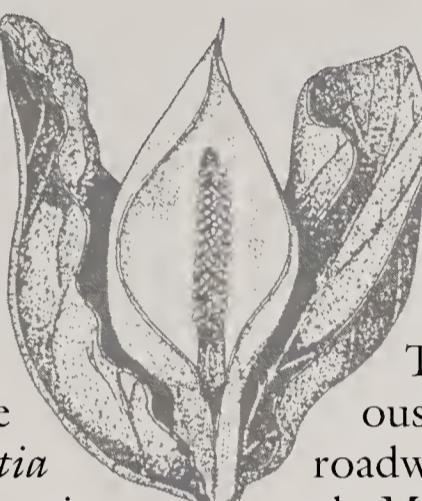
Tight rows of evergreen and deciduous azaleas border the grass-covered roadway. Their impressionist-like display in early May is a magnet for spring-starved visitors. Two hundred feet from the pond, on the west side, standing tall beyond the azaleas, are two *Chamaecyparis nootkatensis* (Alaska cedar), which, according to children, look like ghosts. You will agree that the false cypress exude melancholy.

Back in the Visitors Center parking lot, you may be surprised to see two palm trees at the entrance to the greenhouse. These are *Trachycarpus fortunei* (windmill palms), native to China but happy in the Northwest climate. Their rough-looking trunks are covered with wiry fibrous remains of the old leaf base; in early summer, the numerous small yellowish flowers are borne in long panicles.

In October the burnt sugar scent permeating the air in the parking lot is courtesy of the yellow-and-pink-leaved *Cercidiphyllum japonica* (katsura) planted in the dividing islands.

Jeannine Curry is a long-time member of The Arboretum Foundation, and currently is on the board of directors. She is a veteran volunteer guide and frequently can be found at the information desk in the Visitors Center. Jeannine is a member of the editorial board of the *Arboretum Bulletin*.

Nicola Yarbrough is the artist of Oregon crab apple (page 36) and skunk cabbage (page 37).



Foster Island

by Sheila Taft

The northern area of the Washington Park Arboretum, known as Foster Island, is well loved by those who fish, walk, picnic, and study plants and birds by the lake shore. The natural feel of the area causes many people to comment about a sense of being apart from the rest of the Arboretum. However, the plantings are labeled, the collections are cared for, and the maintenance is as constant in this area as in the rest of WPA.

Tales of the naming of the island abound. In *The Lake Washington Story* by Lucile McDonald, Mr. Foster is a trapper who made the area his headquarters at the turn of the century. In the same book she states that prior to that period it was known as Tiny Island, whose trees held native burial boxes. In an article on the naming of the island (*Arboretum Bulletin*, 52:1), Valerie Easton suggests it could have been named after a prominent citizen of the late nineteenth century or named by the operator of a steam vessel, *The Maude Foster*. Other stories exist.

In 1917, the Montlake Canal was opened, with the resulting drop in the level of Lake Washington. What was once an island requiring access by boat almost became part of the mainland. The visitor steps onto it now by

crossing a little bridge, canopied by cottonwoods and skimmed beneath by kayakers. The large natural areas are planted with birches, alders, pines, and oaks with many native plants providing a backdrop. It is a wildlife sanctuary and is appreciated by birdwatchers from the region. The winter birding is considered excellent. A bird list is available at the Visitors Center and will help both novice and expert ornithologists in their searches.

The access to Lake Washington makes this area a destination for many visitors. At the northern tip of the island, the Waterfront Trail leads to the edge of the lake and wanders above and through the marshes to the Museum of History and Industry. This is a popular walk of one to two hours duration or longer, if all the lookouts and fishermen are visited.

(Walking tour, page 40).

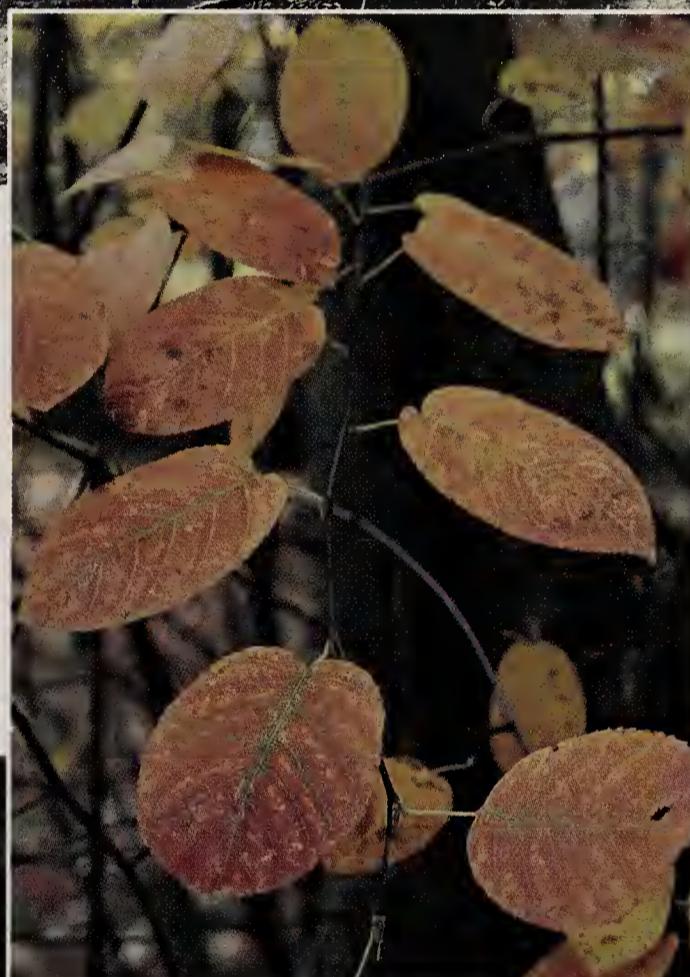


UW Archives



OPPOSITE PAGE: Foster Island in 1913.

TOP: Summer scene of Canada geese under hoary willow (*Salix elaeagnos*). MIDDLE: Downy serviceberry (*Amelanchier arborea*) in autumn. BOTTOM: Red-flowering currant (*Ribes sanguineum*) blooms by late winter.



Photos this page, Joy Spurr



Tour of Foster Island

On Arboretum maps, plants on and near Foster Island are indicated by FI and not specifically pinpointed by grid numbers. You can easily find your way around, however, by following these instructions, which start at the Graham Visitors Center.

The Trail

Leave the Graham Visitors Center and head north down Arboretum Drive East to the bottom of the hill. Cross the road to the lagoon area. It is a rare person who is not immediately greeted by dozens of waterfowl eager to be fed. There is a city ordinance against it, but the city did not notify the ducks and geese. Should there be an absence of birds, a motion of the arm as if throwing a piece of bread will bring enough of them to satisfy any child, young or old. If the birds are flying in, look at their cupped wings—avian brakes—with the feet out for landing. In spring, you will see the blue, scented flowers and huge leaves of the empress tree, *Paulownia tomentosa*, from China. Not a tree for the small city garden but magnificent here.

Follow the water's edge heading east on the bark path. You will walk under the branches of willows (*Salix* species) and hornbeams (*Carpinus* species). Broadmoor Golf Club is to your right, and flocks of Canada geese can be seen on the practice area. You will pass by a big leaning willow with long, slender lance-shaped leaves before joining the gravel path.

As you walk along, the perfume from the sticky buds of the cottonwoods, *Populus* species, may pervade the area before the bridge in the spring. In summer you may be sprinkled with its seed-bearing "snow," which piles in drifts on the paths.

Walk over the wooden bridge. To the right are willow trees and shrubs. First is *Salix babylonica* 'Crispa' and then *S. gilgiana* with its long, slim leaves. The bark of the willow contains salicylic acid, the main ingredient of aspirin. Native American tribes used it for the same reasons we use that drug, to relieve pain.

Past the first willows and on the right is a grove of alder, *Alnus* species. The first plantings of alder were made in 1947, according to WPA's director emeritus, Brian O. Mulligan.

To the left of the alders are the silver-

barked birches (*Betula* species). Veer left around the bend, and note oaks on both sides of the path. As the bend gently straightens, on the right find one of the bigleaf maples, *Acer macrophyllum*. You will see why "macro" means big ("phyllum," meaning leaf). Its leaves are yellow in the fall, and large clusters of helicopter-like seeds delight the children at that time.

Before the fork up ahead, on the left are the labeled *Amelanchier* (serviceberry). After them find *Rubus parviflorus*, the native thimbleberries. Throughout this area are labeled pine, Douglas-fir, maple, and many oaks (*Quercus* species). Also in this matrix of native trees and shrubs is madrona (*Arbutus menziesii*), with its glossy leaves, white heatherbell-like flowers in spring, and bark that flakes off in orange-red pieces..

Where the fork becomes a path, find another native shrub, salal (*Gaultheria shallon*). Like madrona, salal is a member of the heath family. Salal has tough leathery leaves and blue berries that ripen in the late summer and were used in the diet of local tribes. The Arboretum is renowned for its oak collection, and you can see several species in this area. Worth noting is the variety in leaf shape. You will rarely see a truly naked oak; most retain at least a few leaves all winter. The tannin in the tough brown leaves can turn the streams brown in fall and winter.

Go beneath the freeway underpass. It may not be an ideal element of an Arboretum, but it is useful in helping you readily appreciate the struggles of plantings faced with the modern urban environment. Studies at the Center for Urban Horticulture across Lake Washington seek to find the best plants for such areas. A stalwart larch, which has tufts of needles, purple cones, and golden fall color, stands like a sentry to the entrance. Be brave—proceed.

On the other side of the tunnel, to your left, find the stand of Oregon ash, *Fraxinus latifolia*. Leaves have five to seven leaflets, and the tree produces one- to two-inch winged seeds known as samara. One legend says that snakes retreat if shown a stick of this tree, though this has not been proven. It is a fact, however, that baseball bats and piano keys are successfully made of the wood.

Head north to Lake Washington. You will pass pines, serviceberries, and hawthorns

(*Crataegus* species). Notice the length of the needles on the pines and the size of the cones; both help to identify the species. On the serviceberry, find white flowers in the early spring and small edible berries in the summer. It is known by so many common names throughout North America that this demonstrates why Latin names are needed to differentiate the species and help you choose the correct plant in a nursery.

East across the path from the sign saying "Arboretum Waterfront Trail" are more hawthorns, members of the rose family. The hawthorn is glorious in flower in the spring, but the scent is pungent. The medieval word for hedge was "haw," and a thorn-apple was the fruit of the hawthorn.

Bald eagles are sometimes seen on one of the tall evergreens at the tip of the island or wheeling in the sky. Look for them before entering the Waterfront Trail.

The Floating Pathway

The Trail, built in 1967, goes onto the floating pathway through the marshes leading to the Museum of History and Industry. You can enjoy lake views or quiet corners from the lookouts placed at intervals.

The plants are typical of a lake edge environment. Bubbles of methane gas created by plant decomposition can be seen rising to the water's surface.

Along the marsh, you will see purple loosestrife, *Lythrum virgatum*, a native of European marshes that entered the United States in the mid-1880s. Although attractive with purple flowers during the summer months, it outcompetes and displaces other wetland plants and has destroyed habitat for

waterfowl and shorebirds. Although it is a problem to eradicate, numerous environmental and governmental groups are working on control.

In the late spring, look for the bloom of the yellow flag iris, *Iris pseudacorus*, and then the water lilies (*Nymphaea* species). The undersurface and environment of a lily pad is home to many tiny creatures, and ducks and coots feast well on them. Note the ease with which ducks paddle through the water but not so the partially webbed coots. They have to work hard. In the spring, this area is filled with the sound of male red-winged blackbirds defining their territory, perhaps on top of the tall shrub with purple flowers called hardhack, *Spiraea douglasii*; it blooms in July, mixed in with the cattails. Cattails were important to native peoples for food, mats, and baskets.

The trail ends at the Museum of History and Industry. After visiting this museum (whose collections all are *inside*), head back to the WPA. Follow Lake Washington Boulevard East to the Visitors Center, noticing the lovely neighborhood landscapes as you walk, or retrace your steps. If you retrace your steps, you will see new vistas and new plants unseen on the road. After the bridge, near Broadmoor, right before the parking lot, be sure to note the beautiful pink petals and scent of the native rose, *Rosa nutkana*, in June and July.

In any season, Foster Island offers a fascinating and everchanging experience and provides the opportunity to revisit familiar corners or to discover its charm for the first time.

Sheila Taft is the past first vice president of The Arboretum Foundation and a long-time member and guide. Sheila is a horticultural therapist.

Birds of Foster Island

Some of the best Arboretum birding is on Foster Island, which provides marsh as well as drier habitat for non-marsh plants that attract a diversity of birds in summer. Watch and listen for goldfinch, song sparrow, and flocks of bush-tits. On open water, find mallards, Canada geese, American coots, and pied-billed grebes. At the marsh's edge you may see bittern, heron, and Virginia rail. For more information about birds and animals of Foster Island, ask at the Graham Visitors Center reception desk for the pamphlet, *Arboretum Waterfront Self-Guided Trail*, and a WPA bird list.

Illustration: Seattle DPR



The Japanese Garden

by Jim Thomas

As early as 1937, the nonprofit Arboretum Foundation felt a Japanese Garden should be part of Washington Park. In 1959, a sizable gift from an anonymous Foundation member set the long-dormant plans into motion. Valuable assistance was received from the Japanese government, the city of Tokyo, and Kobe, Seattle's sister city.

Japanese landscape architect, Juki Iida, was chosen to direct the project. At that time, Mr. Iida had designed and built more than 1000 Japanese gardens worldwide. Working with six other designers, he produced thirty-four pages of blueprints outlining his plan for the three-and-a-half-acre garden.

On March 1, 1960, Mr. Iida arrived to supervise construction. Prime contractor was William Yorozu and rock work was by Richard (Dick) Yamasaki. In June 1960, the garden was dedicated and opened to the public.

The original tea house, a focal point in the garden, was a gift from the city of Tokyo. Carefully constructed in Japan, it was disassembled, shipped to Seattle, and reassembled on site in the garden. Unfortunately, this beautiful build-

ing was destroyed by fire in 1973. It was rebuilt in 1981 with assistance from the Urasenke Foundation of Kyoto and The Arboretum Foundation.

For many years the University of Washington managed the Japanese Garden as part of the Arboretum. In 1981, management and operation of the garden were transferred to the Seattle Department of Parks and Recreation. The department, with the help of two support groups, the Japanese Garden Society and Unit 86 of The Arboretum Foundation, has a program to maintain and ensure the authenticity and public enjoyment of the garden.

Jim Thomas is head gardener of the Japanese Garden.



Joy Spurr

Entering the Japanese Garden during May's azalea blossoming time, see the todo-gata, a stone lantern.

Tour of the Japanese Garden

by Leroy Collins

The Japanese Garden is a "stroll garden," based on designs popular in Japan in the late sixteenth and early seventeenth centuries.

Location: The Japanese Garden is located at the south end of the Arboretum near the junction of Lake Washington Boulevard East and Arboretum Drive East.

Open: March 1 to November 30.

Hours: Winter, 10 a.m. to 4 p.m. Late spring, 10 a.m. to 6 p.m. Summer, 10 a.m. to 8 p.m.

Admission: \$2.00, adults; \$1.00, seniors and youths 6 to 18.

Gifts: Postcards are available at the ticket booth.

Tours: Arrange by calling (206) 523-2290 or 684-4725 (ticket booth).

Highlights

Spring: Blooming rhododendrons are quite apparent, as well as azaleas and camellias. Especially noteworthy are the bright red azaleas above the wall at the fishing village.

Summer: Look for magnolias, wisteria, and iris.

Fall: Colors in the garden are outstanding.

Always: Note the twelve stone lanterns and the tall Korean stone pagoda.

Enter the Japanese Garden through the South Gate, directly past the ticket booth. Notice the dry stream on your right with a snow-viewing stone lantern (*yukimi-doro*). At the next intersection you see a tall stone lantern known as *todo-gata*. Take the path to the right, proceeding past rhododendrons, azaleas, and camellias until you reach the pond. Here a rocky peninsula juts out. You probably can see brightly colored carp (*koi*) in the water and a small lantern (wild geese alighting) at its tip.

Proceed along the shoreline past red pines, mugho pines, and black pines until arriving at the Emperor's Gate. In this area see the formality of the plantings, including another tall stone lantern (*toda-gata*). Notice two bridges connecting Middle Island (*nakajima*) to the east and west shores. The near one is an earth-en bridge (*do-bashi*), and the far one is a zig-zag wooden plank structure (*yatsubashi*). Move on to see Turtle Island on the left, built somewhat in the shape of a turtle; you might be lucky to see live turtles sunning themselves on a flat rock.

At the wisteria trellis, erected over the exit for the pond's water, continue over the step-

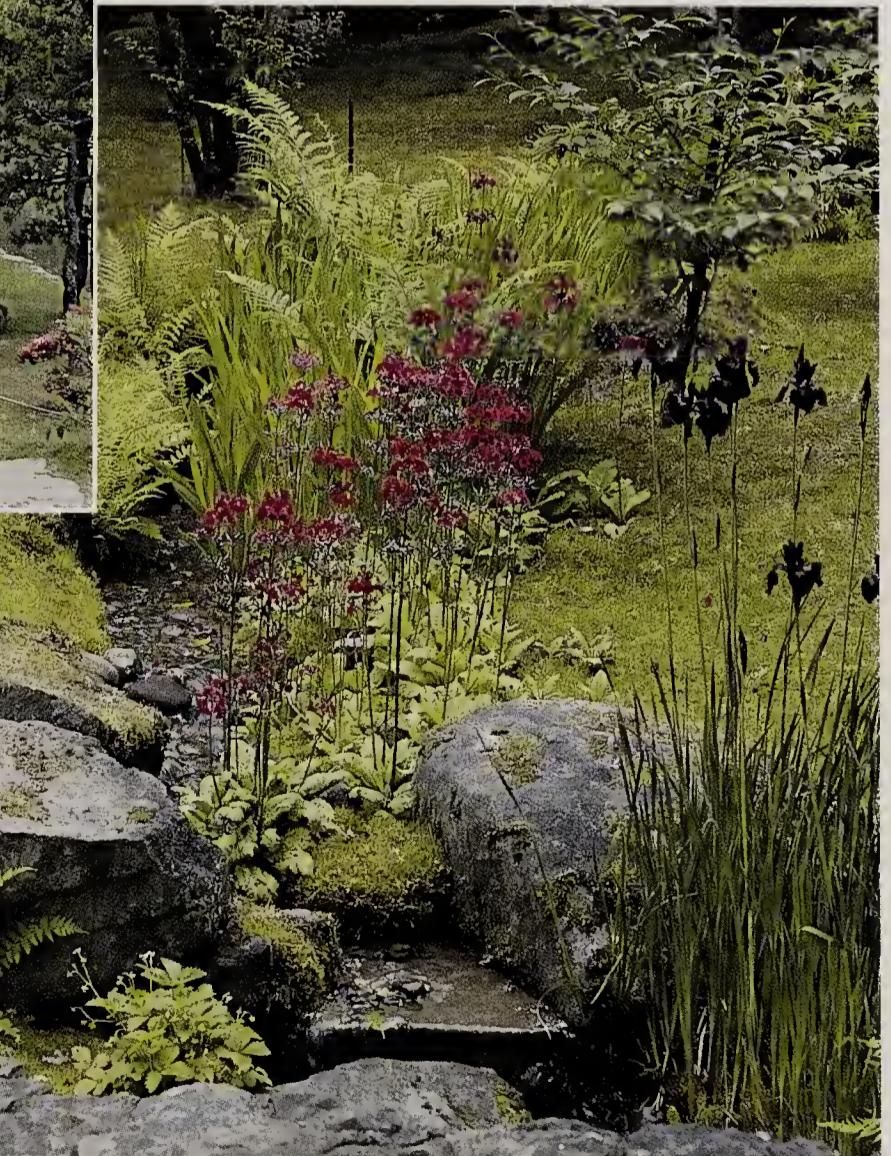
ping stones and turn left at the next trail, walking along a paved walk of alternating patterns (*nobedan*). This area suggests a fishing village, with a stone wall and a stone lantern (*omokaga-gata*) marking the entrance to the harbor. Continue on the paved walk west to the end of the pavement; on the right is a ninety-year-old black pine (*Pinus thunbergii*), transplanted from the garden of the father of Richard Yamasaki (contractor of the garden's rock work). Continue past plantings of evergreen oaks—*Quercus nubium*, which is to the right, branching in moss near the chain link fence, and *Q. myrsinifolia*, left across from *Q. nubium* at the bend in the path. The nearby garden shelter (*azumaya*) is constructed mainly of *Cryptomeria* (sugi) and *Thuja plicata* (western red cedar). Go downhill past an orchard of flowering cherry trees and crab apples to the moon-viewing stand, built over the water near *Pinus densiflora*. From this spot, notice two stone lanterns; one (*tachi-yukimi*) rises vertically from the water near Turtle Island. Ahead is another view of the rocky cape and the wild geese alighting lantern (*misaki-gata*), near the rock, on the other side of the eight-planked

(Continued on page 46)

In the Japanese Garden

photos by Joy Spurr





OPPOSITE PAGE: The wisteria arbor (top) is a popular spring sight. (bottom) The teahouse can be seen beyond the peninsula.

THIS PAGE: (top) The white birch (*Betula pendula*) was planted by the Empress of Japan in 1960. (above) The path up the stairs leads to this old black pine (*Pinus thunbergii*). (right) Ferns, primroses, and irises in moss signal that the journey is near an end and the beginning.

bridge; the alighting wild geese lantern (misaki-gata), is at the tip of the rocky cape to your front.

Resume walking toward the tea house, and stop at a white cherry (*Prunus ‘Shirotae’*) planted in August 1960 by the current Emperor of Japan. On the left of the path near the water is a white northern birch (*Betula pendula*) planted by his wife. Bearing to the left, pass by the entrance to the tea garden with the waiting area (machiai) on the right and the tea house on the left. The name of the tea house is Sho sei an, arbor of the murmuring pines. On your left is another snow-viewing lantern (yukimi-doro). Climb on the stone steps, and go up toward the right of the slope. Turn right up the steps for another view of the tea house, then turn up the steps to the left toward the waterfall cascading over the largest of the 600 rocks brought from the Cascade mountains near Bandera. At the edge of the steps, look past the waterfall to catch a glimpse of a Kore-



The Friendship Lantern was a gift from the citizens of Kobe to the people of Seattle.

an stone pagoda, which suggests an ancient seminary.

Finally, descend the path toward the entrance gate over a stone bridge, which traverses the second of the two streams that feed the lake. Exit the garden where you entered. On the way to the parking lot, pass an empress tree (*Paulownia tomentosa*), planted in memory of Jimmy Fukuda, who rendered great service in the garden's construction.

Tour of the Japanese Garden

1. South Gate, dry stream
2. Snow-viewing stone lantern (yukimi-doro)
3. Stone lantern, todo-gata
4. Two ginkgo trees
5. Mugho pines and black pines
6. Emperor's Gate
7. Two bridges connecting Middle Island (nakajima)
8. Wisteria trellis
9. Paved walk of alternating patterns
10. Fishing village
11. Stone lantern at harbor entrance (omokaga-gata)
12. 90-year-old black pine
13. *Quercus nubium* and *Q. myrsinifolia*
14. Garden shelter (azumaya)
15. Moon-viewing stand
16. Tachi-yukimi lantern
17. Alighting wild geese lantern (misaki-gata)
18. White cherry (*Prunus ‘Shirotae’*)
19. White northern birch (*Betula pendula*)
20. Waiting area of tea garden (machiai)
21. Tea house, Arbor of the Murmuring Pines
22. Snow-viewing lantern (yukimi-doro)
23. Korean stone pagoda (zyvisso-to)
24. Waterfall
25. Stone bridge

The late Leroy "Rip" Collins was a guiding member of Unit 86 of The Arboretum Foundation, which focused on the Japanese Garden. He served two terms as president of The Arboretum Foundation and was a long-time member of the *Bulletin* editorial board, in addition to numerous other civic tasks. After Rip sent in this article (early), he was concerned that it did not reflect the "spirit" of the Japanese Garden. Actually, this was just the article that was hoped for, and Rip's spirit remains evident in the existence of this beautiful piece of Japan.

Speaking of the Arboretum

Headliners for Your Program

Experts on the AF's speaker list will present topics to groups whose members belong to The Arboretum Foundation. Hear programs ranging from all about the Arboretum to landscaping for wildlife and using bulbs. Many speakers present hands-on demonstrations; others have slide shows. Speakers are individuals and members of The Arboretum Foundation, from the University of Washington and Washington State University, as well as nursery owners and other specialists. Some charge a fee, but frequently they donate it back to the Arboretum. Program chairs of Arboretum committees, units, and study groups may contact The Arboretum Foundation for a copy of the list: 325-4510.

For general audiences, the director of Arboreta, the executive director of The Arboretum Foundation, and other members of the staff are available for community discussions concerning the Arboretum, its function, and its future: 325-4510; 543-8800.

Arboretum Slide Programs & Videos

Slide programs and videos of the Arboretum are available to Arboretum Foundation members for a small fee. The slide shows come with scripts or plant lists. An Arboretum Awareness slide show is available as well as ones on the Japanese Garden, hostas, wildflowers, winter-blooming plants, rhododendrons, heathers, and more. There are two videos for loan, one on perennials and the other on visiting WPA. Call The Arboretum Foundation office for more information: 325-4510.

PHOTO: *Sarcococca confusa* by E.F. Marten.

Woody Plants: Tours, classes, programs, & activities

by Dana Kirley
photos by L. Nagie

Whatever your age or experience, the Arboretum offers educational programs for you. Learn more about the Arboretum and its collections, gardening in the Pacific Northwest, and the natural world.



Saplings learn basic planting skills in the unique hands-on program for elementary school children. Both adults and children enjoy fairs and other events at WPA (inset).



Volunteers demonstrate propagation techniques to children.

Children

Youth Education Programs. UW. Dramatic, seasonal changes in the Arboretum make fall a good time to teach children about nature. Educators (K-12), youth group leaders, and parents or guardians can get their youngsters involved in: Saplings Program (grades 3-5), Guided Walks (grades K-12, youth groups, families), and Exploring (grades K-12, youth groups, families) with an excellent "Explorer Pack" full of instructions, guides, and equipment.

For further information, call the education coordinator: (206) 543-8800.

All Ages

Arboretum Focus Walks. UW. Arboretum staff and local experts help you explore the Arboretum and its collections during these monthly lecture-walks. They offer a casual opportunity to tour the Arboretum, learning in-depth about specific topics and collections. Public invited.

Where: Graham Visitors Center

When: 10 a.m. to noon

Cost: \$5, payable at the door; no preregistration required.

More information: *Ground Work, CUH Presents*, or call the Graham Visitors Center, 543-8800.

Special Monthly Lectures. AF. Specifically designed for Arboretum Foundation members and open to visitors, experts from the Pacific Northwest lecture on topics related to Arboretum collections, general gardening, and specific horticultural topics. Each program lasts between two and three hours, and includes both lecture and tour of the grounds.

Where: Graham Visitors Center

When: Varies

Cost: Varies (less for Arboretum Foundation members).

More information: *Ground Work, CUH Presents*, or call The Arboretum Foundation, 325-4510.

CUH courses and lectures at the Arboretum. UW. A portion of the public education program of CUH is dedicated specifically to the Arboretum and held in the Visitors Center. This includes courses, lectures, and other public activities. Topics include plant identification, plant management or pruning, and, of course, using the Arboretum as your outdoor classroom. Both beginning and advanced levels are available. Find quarterly class listings in *CUH Presents*, or call 543-8616; 543-8800.

Family Festivals. UW. At least twice a year, family festivals are hosted by UW Arboretum staff and volunteers. Adults and children are invited to participate together in a day of natural crafts. Arboretum tours and other fun and educational activities are also available then. Festivals are free and open to everyone. For information: *Ground Work, CUH Presents*, or call the Graham Visitors Center, 543-8800.

Scheduled Tours. UW. School classes, garden clubs, youth groups, and families, are welcome to schedule at least three weeks in advance to tour the Arboretum. Trained volunteer guides are available seven days a week to introduce you to the WPA and provide horticultural information about the plant collections.

Groups can choose among three different types of tours: Native Plants and Ethnobotany, Foster Island Ecology, or a general tour (emphasis changes with the seasons).

Tours last between one and two hours and can be set at a comfortable pace. Groups of any size may schedule; however, larger groups will be split up, one guide to a maximum of 15 people. All children's groups must have one adult accompany every ten children. A \$5, non-refundable booking fee secures your place. For more information or to schedule a tour call the UW education coordinator, 543-8800.

Weekend Public Tours. UW. Free public tours are offered rain or shine every Saturday at 3 p.m. and each Sunday at 1 p.m., from January through November (except holidays). Meet at the Graham Visitors Center and join volunteer guides as they highlight plants of seasonal interest. No pre-registration required. Remember your hiking shoes.

Ongoing Programs

As the Arboretum's education program continues to blossom, look for more family programs, additional children's programs to reach youth of all ages, and cooperative programs with the Seattle Department of Parks and Recreation, Powerful Schools, the Woodland Park Zoo, and other organizations. Announcements of new programs and new partnerships will appear in *Ground Work, CUH Presents*, and the garden calendars of local newspapers.

Dana Kirley is coordinator of education, University of Washington Center for Urban Horticulture, with emphasis on Washington Park Arboretum. She is a graduate of Virginia Polytechnic and State University, Blacksburg, Virginia. Dana has worked in the Shenandoah National Park, The Nature Conservancy (Kankakee, Illinois), and the New River Wildlife Center (Blacksburg, Virginia).

Higher Education

by Clement W. Hamilton

Springtime heralds the arrival in the Arboretum of cherry blossoms, maple leaves, and more-or-less orderly clusters of young men and women observing intently and hanging on every word uttered by their teachers. These groups have come in buses, in vans, in car pools, on bicycles, and by foot for many years. Some are from as near as the University of Washington and others from as far as Washington State University, Pullman. They come to learn, from the Arboretum's unparalleled collection of plant species and cultivars, about taxonomy, natural ecology, and uses of plants in urban landscapes.

The Arboretum has the Pacific Northwest's most comprehensive collection of woody plants from throughout the temperate world. Often the plants are arranged according to their taxonomic relationships, which enables teachers to demonstrate how, for instance, the genus *Sorbus* varies so greatly in its leaf organization, from simple to deeply lobed to compound. Other collections emphasize the geographic origins of the plants, such as the Sino-Himalayan Hillside and the New Zealand High Country exhibit; students immersing themselves in such ecological simulations gain far more than from watching an educational film. Still other collections demonstrate a particular function of plants in urban landscapes, such as the Joseph Witt Winter Garden or the renovated Woodland Garden.

These days, it is popular to teach about native trees and shrubs of the Pacific Northwest. The native plant walk just across Arboretum Drive from the Graham Visitors Center provides a well-labeled core display for studying our natives, from the ubiquitous Douglas-fir (*Pseudotsuga menziesii*), and western hemlock (*Tsuga heterophylla*) to the spectacular specimen of our native crab apple (*Malus fusca*). Other native woody plants are found throughout the Arboretum, often in the wilder areas we have designated the "native matrix," which resembles secondary woodland in much of western Washington.

Which Students Use the Arboretum?

The major educational user of the Arboretum is the University of Washington, which has about 15 courses—mostly in urban horticulture, botany, forestry, and landscape architecture—using the collections every year. For example, each spring and summer, Landscape Plant Recognition is taught at WPA. The fifty-student class visits the Arboretum twelve times each quarter for three-hour walks during which they learn fifteen species per session.

From the College of Forest Resources, faculty teach two courses about trees using the Arboretum: Trees in Our Environment, for non-majors, and Dendrology, for foresters. The students find it interesting to hear about the same tree from both a landscape and forestry point of view.

Foremost among the community college customers of the Arboretum are Edmonds Community College and South Seattle Community College, both with strong horticulture programs. Instructors from Edmonds bring classes about 20 times every year to study landscape trees and shrubs and to show the Arboretum to students who, for the most part, have never visited before. Nurseryman and lecturer Daniel Hinkley represents all teachers when he says the Arboretum is "our library for plant identification."

High schools are just discovering the Arboretum to demonstrate to students key concepts in basic biology, botany, ecology, and horticulture.

Teaching in the Arboretum

The Arboretum is a vast place, and there are few obvious clues as to its organization. The first step is for teachers to obtain a copy, from the gift shop at the Graham Visitors Center, of *The Woody Plant Collection in the Washington Park Arboretum* (1994). That will help the teacher-user by providing a detailed overview of the collection. Then teachers can consult with University of Washington staff members based in the Arboretum, who can assist in planning educational efforts.



CUH Director Clement Hamilton (left) frequently takes his University of Washington students to the Arboretum, a living classroom and museum.

We are striving to make the Arboretum even more friendly to users in the future, and that is one big reason we have embarked on the master planning effort. Plants will be arranged in displays that more obviously serve particular educational themes, and those themes will move more towards urban landscape horticulture and natural ecology, and somewhat away from taxonomy. More comprehensive interpretation, through brochures

and signs, is also on the horizon. We are anxious to hear from current and prospective teachers who use the Arboretum, so we can make it as useful as possible for all levels of instruction.

Clement Hamilton is director, Center for Urban Horticulture, University of Washington.

Become Part of The Arboretum Foundation

by Deborah Andrews

The Arboretum Foundation is a non-profit organization, established in 1935, to preserve, develop, and support the Washington Park Arboretum.

To join the foundation or learn about volunteer opportunities and quarterly volunteer orientations

Call (206) 325-4510

Join!

People who join the Arboretum Foundation (AF) have diverse interests, backgrounds, skills, and experiences with a varied knowledge of horticulture, plants, and gardening. Some work at other jobs and need a place to indulge their gardening passion; others are retired and offer experience, talents, and a little more time. Beginning gardeners come to learn, and experts come to share their expertise.

We invite you to join us and enjoy the benefits of AF membership.

- The Washington Park Arboretum Bulletin*, a quarterly magazine: Each colorful issue highlights specific features of the Arboretum and general horticultural and gardening information. Some issues, such as this guidebook, have a special focus for WPA users.
- Ground Work*. The monthly AF newsletter is filled with valuable information about



WPA headquarters, the Graham Visitors Center, 2300 Arboretum Drive East. Offices, information, a gift shop, and rental auditorium are housed here.

Photo by L. Nagie, raised-bed design by Withey/Price

gardening, events, plant sales, lectures, Arboretum tours, and family programs.

- **Discounts:** Pay less for select horticultural classes and programs and tickets for the preview party for the Northwest Flower and Garden Show. Take advantage of opportunities to shop before the general public at members-only sales, and always receive 10% off purchases at the Arboretum Gift Shop.
- **Units:** Join one of the units — groups of Arboretum members who meet to broaden and share plant knowledge while furthering the work of the Arboretum Foundation. Many of the 50 units focus on study and take advantage of exclusive lecturers, slide programs, guest speakers, and field trips. They also plan and participate in fund-raising activities for the WPA. AF will help place you in an existing unit or guide those who want to start new ones.
- **Study Groups:** Become part of a study group which concentrates on learning about specific plant groups such as Northwest natives, perennials, trees, and shrubs. All members of the Foundation are welcome to join a specific group or attend any of the lectures or field trips that study groups sponsor.

Volunteer!

Do we need more volunteers? You bet we do, now more than ever. As WPA grows, you will find countless opportunities for learning, friendship, and stewardship of our Northwest treasure, the Washington Park Arboretum. Some are listed below, or create your own place.



John A. Wott

The fall bulb sale, run by AF volunteers, offers popular and hard-to-find bulbs for shoppers.

Volunteer Opportunities

- **Help at plant sales.** Becoming involved in a plant sale is one of the easiest and best ways to get to know the volunteer side of



Joining a study group, such as this group of native plant lovers, lets you meet new people while learning.

the Arboretum and the individuals that make it run. Organize or help run the sale. Select a special area that you would like to learn more about, e.g., native plants, and volunteer to work at that sales table. You will come away with new information and fresh ideas on how to use those particular plants in your own garden.

- **Use your professional skills.** As a volunteer organization, professional skills of all types are needed either for a specific project or on an ongoing basis. Landscape architects and designers, artists, educators, writers and public relations specialists, accountants, computer whizzes are all needed.
- **Become involved in special events.** Participate in major fund-raising events during the year. Do everything from coordinating an event or public relations, to sales and potting plants. There is a place for you to help.
- **Support administrative staff.** Assist with computer help, filing, copying, collating, answering phones, and helping with mass mailings.
- **Work in the gift shop.** The gift shop, open daily in the lobby of the Graham Visitors Center, is always looking for sales people, merchandisers, and marketing people.
- **Assist in the Pat Calvert Greenhouse and Plant Donations Department.** Volunteers get their hands in dirt by propagating, potting, caring for, and selling plants. They also assist with the maintenance of the greenhouse and surrounding demonstration beds.
- **Guide tours.** Help introduce adults and children to the Arboretum and its collections by leading scheduled tours. Required training is provided.
- **Staff the information desk.** Answer questions

for the public about the Arboretum and horticulture.

- **Help maintain the Arboretum collections.** Work with the Arboretum staff on the grounds by weeding, mulching, pruning, watering and planting. Volunteer yourself or get your community group involved.
- **Work with the Saplings.** Become an activity leader, develop programs, or coordinate events for children in the Arboretum's education program.

Deborah Andrews is the vice president for administration of The Arboretum Foundation.

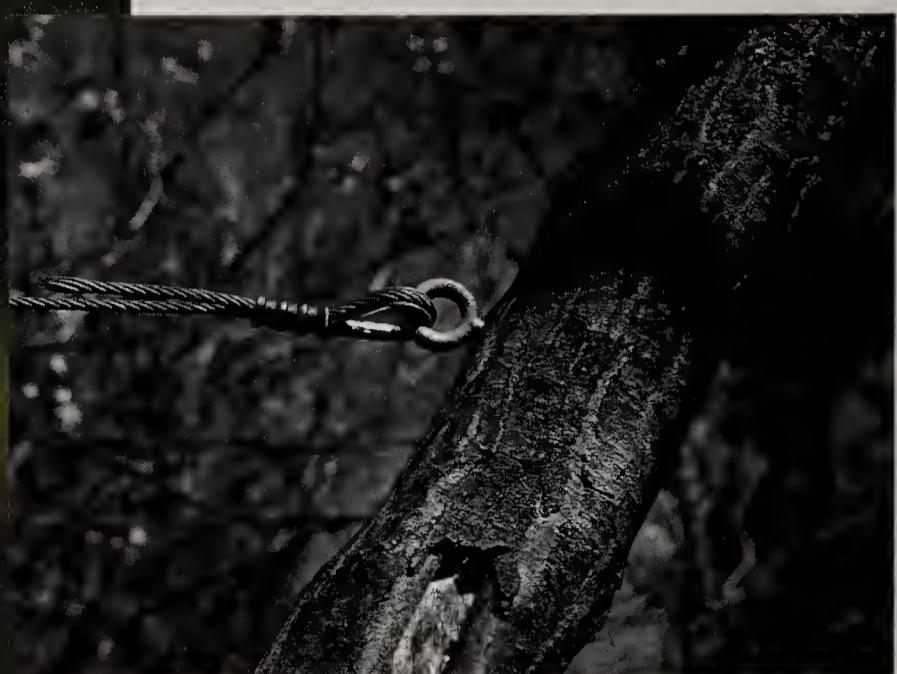
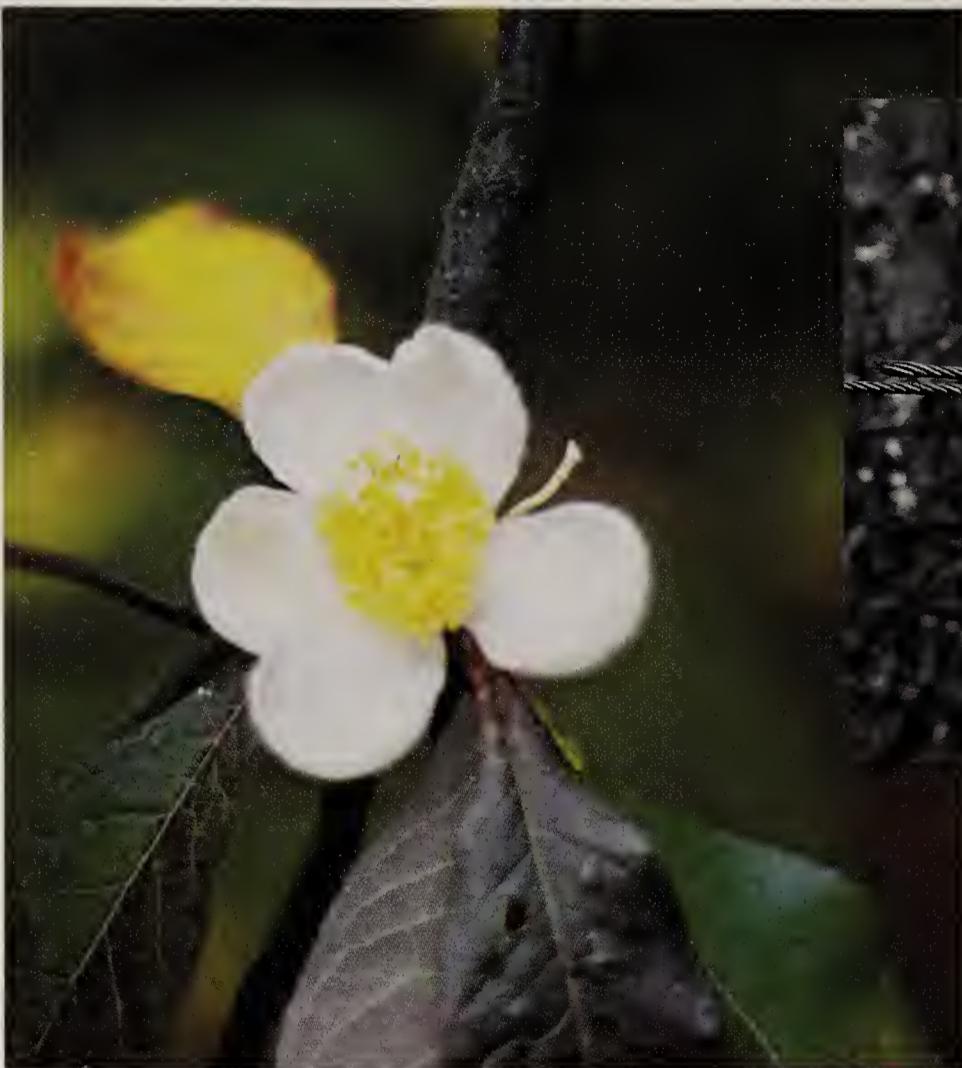


John A. Wott



John A. Wott

Volunteers are responsible for work in the greenhouse (top) and sales that support Washington Park Arboretum.



The beautiful *Franklinia alatamaha* on Arboretum Drive East is maintained by careful bracing (top left and right). Big-leaf maples are part of WPA's natural heritage; many of them, however, are near or past maturity and subject to failure (middle, from *Armillaria*) or split leaders (lower left). Judicious pruning and maintenance — and sometimes removal, as a last resort — help preserve these beautiful trees (lower right), as they occur throughout the 200 acres.



Christina Pfeiffer



Christina Pfeiffer



Arboretum users are rewarded with vistas such as the one through this *Prunus x yedoensis* 'Akebono', because of WPA staff efforts to prevent and deal with problems such as the *Prunus* species dry rot (bottom).

Behind the Scenes

by Tracy Omar, Registrar
Christina Pfeiffer, Horticulturist
Barbara Seleton, Propagator

The beautiful setting and naturalistic landscape can give the feeling that the Arboretum is all nature's work. But it is the collection of diverse plant material and human efforts that is responsible for much of this effect. And most of those efforts may be invisible to casual observers. Come behind the scenes and see the many activities that are critical to the functioning of this living museum of woody plants grown for education, conservation, research, and display.—Christina Pfeiffer

What's in the Plant Collections

The first arboretum plantings were done in 1935. In the sixty years since then, they have accumulated into one of the premier woody plant collections in the United States with nearly five thousand different kinds of plants.

The Japanese maple cultivars, for example, comprise the largest public collection in North America. Collections of holly, mountain ash, and fir are world class. Other important collections are the Winter Garden, the Rock Garden, and plants from the Mediterranean, New Zealand, and Chile. Included are species identified as of conservation interest because of their precarious status in their native range.



For these reasons, Arboretum plants are regularly evaluated to determine their condition and value to the collection.

To maintain the strength and integrity of the plant collections, new selections are added every year. When possible, plant material is obtained from well-documented sources, to be certain of the identity and origins. Most new material comes to WPA as seed from other public gardens.

WPA also maintains a documented plant collection that is recognized by other institutions. This means documenting plant care activities in addition to plants.

Many public gardens throughout the world, including WPA, participate in a seed exchange program. Often this seed was collected from wild plants. Participating gardens send out a list known as an *Index Seminum*, which offers seed for exchange from other gardens. This is the primary way gardens increase the value and diversity of their collections. In 1994, the Arboretum sent its *Index Seminum* to six hundred-forty gardens in sixty-three countries. In exchange, WPA received one hundred eighty-eight accessions from other gardens to add to the collections. Private gardens and commercial nurseries sometimes supply plant material that is not available elsewhere and is taken if WPA is confident of its identification.

Keeping Track of It All— The Records System

As a living museum of woody plants, the Arboretum, like other museums, maintains well-documented records of the collections.

Record-keeping begins when an accession number is assigned to new plant material. This unique identifier is given to a group of like propagules when they are obtained by the Arboretum. An accession may consist of a single plant, a group of cuttings, or a packet of seeds; one number may apply to more than one individual; but each individual can have only one accession number.

An example of an accession number is "447-50." The two digits following the hyphen are the year in which the accession came to the Arboretum. The number before the hyphen indicates the sequence of acquisitions within the year. Therefore, "447-50" is the 447th acquisition of 1950. The year can

provide an approximate age and growth rate for a specimen.

Records for each WPA plant are tied to its accession number: when the plant arrived in the collection, where it came from, when and where it was planted in the collection, information on its performance in the collection, and propagation information.

The Arboretum is mapped on a 100 × 100-square-foot grid system and each plant is mapped within its grid to allow users to locate it. Each plant is identified by its 1 × 3-inch green plastic label, which contains the scientific and common names, the natural range, and the accession number.

Preserved Specimens—A Companion to the Living Collections

The Arboretum collects, presses, dries, and labels specimens from plants in the collection which are used to include over ten thousand specimens representing sixty percent of WPA's collections. These are housed at The Douglas Hyde Hortorium, located at the Center for Urban Horticulture.

Growing New Plants

The Plant Production program is located at the Center for Urban Horticulture, Union Bay site, north across Lake Washington from the main Arboretum. The Douglas Research Conservatory provides a computer-controlled environment for propagating from seeds and cuttings. A container nursery is located nearby in a fenced area to the south of Douglas, where all plants are grown on until planting size is achieved.

Over the five years starting in 1990, an annual average of three hundred twenty-nine new accessions were received into the program. Two-thirds of these new accessions were handled as seeds. The remaining one-third consisted of vegetative cuttings from plants in the Arboretum or new plants obtained from other sources. At any one time, there can be up to seven hundred-fifty different accessions being handled in the production programs, from new propagules to larger nursery stock. From this resource, plant selections are made for new additions to the collections.

The wide variety of plants that are handled are a challenge to successfully propagate.

Many taxa are obtained from South America, New Zealand, or other far regions of the world, and with little or no information about the species available in the scientific literature. Seeds that come in from the *Index Seminum* may vary in both quality and viability; with very small amounts being sent, little or no room is available for testing.

Renewing the Arboretum collections by way of vegetative propagation can be a formidable task, as well. In most cases, the subject for propagation is fifty to sixty years old and struggling to survive. This usually means little to no new growth is available to make cuttings. In such a case, the staff may decide to replace the original accession with plants from a new source.

Staff keep detailed records throughout the growth cycle of all plants in the program. The records that are maintained on trials of new and unknown material are used for reference when propagating similar plants later on. The information on successful propagation is provided to others who are interested in growing these unfamiliar species.

Plant Distribution

Every year, formal requests are made from associated botanical gardens or arboreta as well as from commercial nurseries seeking plant material existing in the WPA collections. The goal of the WPA plant distribution program is to provide material that is not readily available from other sources.

WPA policy allows for seeds or cuttings to be exchanged with sister institutions for no charge, but nurseries are asked to make a donation to help defray the costs of handling and shipping. Information including date sent and where the plant material is shipped to is kept in a record file for future reference, so if WPA's original plant material dies off from the collection, a source of the original can be requested.

An average of one hundred twenty-five requests are answered yearly with plant material being shipped around the world as far away as Holland and New Zealand. Surplus plants not needed in the collections are donated to other local institutions, Arboretum plant sales, and The Arboretum Foundation's Pat Calvert Greenhouse. When WPA receives requests from the public, they are forwarded to Pat

Calvert Greenhouse, located next to the Graham Visitors Center in the Arboretum, south of the parking lot.

Plant Care

As emphasized throughout this guidebook, the Arboretum covers about two hundred acres, with a densely planted landscape containing over ten thousand accessioned plants amidst a matrix of native trees and shrubs. Because the main objective of the plant care program is to conserve the plant collections, the challenge is how best to use the limited resources to the greatest overall benefit.

Many accessions are rare or endangered in their native habitats. Some areas have specialized landscapes requiring higher levels of care, such as the Winter Garden or *Sorbus* collection. All are taken care of by the University of Washington's six full-time staff and four to six seasonal employees. So much ground to cover, so little staff. Where do they begin?

WPA's work takes on a triage approach: Tackle the most critical tasks for the most critical collection issues over a broad area. For example, staff may need to focus on removing morning glory from all the beds along Azalea Way to prevent damage or death of the shrubs being smothered by this fast-growing vine before they can work on the less threatening (albeit unsightly) remaining weeds.

As a University and educational facility, WPA strives to utilize the most up-to-date horticultural information and practices. The staff have educational backgrounds in the field and regularly attend seminars to continue their training. This technical background is put to work in how they organize work activities and what techniques are used.

Annual Tasks

The annual planting program occurs about October through April when new plants from container-grown and field-grown locations are planted throughout the Arboretum.

The irrigation program is set up to provide adequate water to those plants and planting areas that most require it, making the wisest use of water and time. An inventory of the newest plants and other plants requiring summer water is used to guide this work. Some of the Arboretum is watered with an automatic system; the rest is done manually. All watering

is determined by monitoring soil and plant conditions. And though it may look strange, staff take advantage of dampening done by sparse summer rains to facilitate the occasional deep soakings needed by some plantings.

The new plant care program provides intensive cultural care for all plants installed over the past three years. The goal is to get the young plants off to a strong start, thus reducing future maintenance requirements.

The arboriculture program covers the management of the large trees. The goal is to reduce potential hazards through inspections and preventive work, as well as conserving the plant collections. Pruning and training of younger trees is also included.

Pest management and plant health care work uses a holistic approach to managing plant problems, combining the use of carefully timed, least toxic control applications, cultural practices to improve plant vigor, and removal of severely affected plants that cannot be restored. Extensive monitoring and follow-up evaluations are a critical part of this work.

Weed management goes on all year in between all the other tasks. This job is prioritized by its impacts on collection plants, with control efforts for the most troublesome species such as horsetail and morning glory scheduled for critical points in the season. The use of wood chip mulch is an important component to weed suppression.

Seasonal pruning is done for selected plant collections, distributed throughout the grounds. Examples include spring pruning of hydrangeas, clematis, ornamental grasses, buddleia, roses, and other selected shrubs.

In addition to these major areas, preventive maintenance is scheduled for special collection areas such as the Winter Garden and the New Zealand display bed. Here the care of the entire site is emphasized as well as plant health.

Maintaining a documented plant collection means documenting plant care activities as well. Garden staff file reports on plant condition and dead plants, mapping of new plants, and other critical information that is funnelled back into the collection records system. In addition, WPA keeps records of operations, including irrigation inventories, pest control, and tree inspections.

Following a Plant through WPA's System: *x Cupressocyparis ovensii*

Here is an example of the kind of work done to preserve the content of the plant collections; in this case, WPA was replacing a cypress hybrid (*x Cupressocyparis ovensii*) by using the original plant:

1991: The plant is growing in field nursery at the Arboretum. Garden staff note that the trees have leaned severely due to poor root systems and cannot be transplanted. A plant condition report is turned in for curator to evaluate.

Review of the records indicates the plants were introduced from the US National Arboretum and are the only specimens from this source. A propagation request is sent to the propagator. If these plants had been determined not to be of significant value, a note to remove them would have been routed back to the garden staff.

1991: Cuttings of the original plants are taken and grown on to size in the container nursery. They receive a new accession number. The original plants are kept until the new cuttings become well established.

1994: The new plants are ready and are added to the list of trees to be planted at WPA. The original plants have been removed and a dead plant record submitted to records office.

1995: Two specimens of *x Cupressocyparis ovensii*, with their new accession number 88-91, are planted at grids 40-5W and 36-3W in the Pinetum, at the northwest end of the Arboretum. Garden staff prepare a planting map, which is submitted to plant records office to update the accession and grid map records. Plants are added to "new plant care program" for special care during the three-year establishment period.

Staff Support

The staff is only able to achieve what is described above with additional help such as that which comes from the Arboretum's extensive volunteer program: plant records, hortorium, plant production, *Index Seminum*, and maintenance of the collection.

Horticultural interns also helped with work on special projects such as collection evaluations for the *Magnolia*, *Abies*, and *Acer palmatum* collections, as well as with maintenance and propagation projects.

Adding a WPA Plant: *Abies gracilis*

The American Association of Botanical Gardens and Arboreta, of which the Washington Park Arboretum is a member, has a new program called the North American Plant Collections Consortium, which designates specific collections at certain gardens as the national collection. Since WPA's collection of *Abies* (fir) is very strong, it was proposed to be a consortium collection. The designation signifies priority on getting new species not already at the Arboretum.

This example illustrates the process for selecting and acquiring new plants for all WPA collections:

1992: A complete inventory and evaluation of the fir collection is made. Then a list is developed that contains species WPA needs to acquire to make its collection more comprehensive. The emphasis for new plants is on seed collected from the wild.

WPA begins to search the seed exchange lists and write to other public gardens to locate seed of the desired species. This is a slow process, because all the species that were readily available are already represented in the collection.

1993: *Abies* seed begin to trickle in. Arboretum Novy Dvur offers seed of *Abies gracilis*, collected from wild plants in Russia.

1994. The batch of seeds arrives from Russia. The seed lot is given an accession number, and information about its origin is carefully recorded in WPA accession records. Then the seeds are given to the propagator to be grown in the plant production area until they are large enough to be planted out in WPA's collection.



Brian O. Mulligan

WPA has one of the finest fir (*Abies*) collections in the United States, including *Abies bracteata*, above.

Stewardship of Arboretum Trees

The Arboretum's plant collections are grown amidst a matrix of native trees; some occur naturally and others were planted. Keeping these natives is part of WPA's naturalistic landscape style. It also poses special challenges and needs in providing for the care and cultural needs of the native and collection trees.

WPA has a large-tree program. Its goals are to reduce potential tree hazards through inspections and preventive work, and to improve the integrity and longevity of the Arboretum's trees while conserving the plant collections.

One of the greatest challenges we face is the large number of *Acer macrophyllum*, the native big-leaf maple, which are in various states of decline. Many are multitrunked, the result of stump sprouts from trees cut when the collections were planted over 50 years ago. Big-leaf maple is also prone to several diseases that contribute to its decline and structural weakness. These include *Verticillium* wilt, *Armillaria* root rot, and *Hypoxylon* canker. When signs of advanced decline are evident, these trees must be removed before they fall apart on their own and cause much greater damage.

The field arborist on the University of Washington staff conducts an organized program designed to provide timely care for the full-range collection and native trees. The major activities are:

Hazard tree abatement: A hazard is posed when a structurally weakened tree's failure would result in hitting a target such as trails, benches, drinking fountains, and other places where people are, as well as special collection areas. Regularly scheduled inspections are used to evaluate and track condition. These inspections are followed by continued monitoring, pruning, cabling and bracing, or removal, as appropriate.

Collection improvements: Work is done to improve the content and integrity of the collections. This includes a combination of pruning and removal of native and collection trees, done to improve the health and development of the remaining trees. Planting of new specimens is included in this work.

Preventive tree care: Routine work is done to preserve the health and condition of large trees. This includes pruning out deadwood, cabling and bracing, pest management, fertilization, soil improvement, mulched tree rings, irrigation, and pruning to train young trees.

Emergency tree work: Pruning and removals are done in response to storm events, vandalism, and unexpected tree failures such as limb drop, leaning, or fallen trees.

Since the Arboretum increased its resources in 1991 to better care for the large trees, there have been far fewer emergencies following winter storms. The program has also been able to take timely action to preserve trees that might have otherwise been damaged during a storm. The results of good tree stewardship are far reaching in the benefits to the Arboretum's plant collection.

—Christina Pfeiffer

The Arboretum's horticulturist and field arborist are both certified arborists in the International Society of Arboriculture.

Plants for Sale Year-Round

Ann O'Mera

Where:	The Pat Calvert Greenhouse, south of the Graham Visitors Center parking lot, 2300 Arboretum Drive East
When:	Tuesdays from 10 a.m. to 12 p.m. Saturdays from April through summer, 10 a.m. to 2 p.m.
Study groups:	All members of The Arboretum Foundation are encouraged to join a plant propagation/production group. Tuesday group — weekly, 10 a.m. to 12 p.m. Saturday — 2nd and 4th Saturdays of the month — 8:30 a.m. to 10:30 a.m.

Purchase plant starts from the Arboretum grounds or have a favorite from the collection started for you by volunteers. Plants are donated by Arboretum Foundation members as well as from the University of Washington. Profits support the Arboretum.

The Arboretum Foundation sells plants at the Pat Calvert Greenhouse, which opened in July 1959 as an AF project. The volunteers who work in the greenhouse try to keep a variety of popular, well-known Arboretum plants, as well as a selection of choice, uncommon plants from the collections, for sale.

Most of the plants are in four-inch pots. Although this size seems small, the best varieties are usually sold before the plant (and price) have a chance to get bigger. Long-time customers know to shop a couple weeks ahead of the major plant sales to get the best selection.

If you want to obtain a start of a plant in the Arboretum, take your request to the greenhouse on open days. You can also leave it at the reception desk of the Graham Visitors Center or mail it to The Arboretum Foundation.

When requesting a plant start, have the following information: Look on the tag of the plant you like and write down the name and

accession number (the hyphenated numbers on the tag) along with your name and telephone number; *don't remove the labels*, however. If there is no tag, describe the plant, the surrounding area, nearby tagged plants, and any landmarks. Usually the hardest part of filling a cutting request is finding the plant someone wants. You will be called when your rooted plant is available.

Volunteer opportunities: When you volunteer at the Pat Calvert Greenhouse, you will spend your time taking cuttings from the Arboretum collections and from members' gardens, and then taking care of and selling plants that have been potted. As a greenhouse volunteer, you will learn more than plant care and propagation techniques. Working with the wide variety of plants from the Arboretum will help you choose the best plants for your own garden. You will also meet some very nice people. Check it out; the greenhouse volunteers are always open to new ideas and suggestions.



Rita Rae Cloney

Ann O'Mera chairs the volunteers at the Pat Calvert Greenhouse.

For Further Information:

Other Gardens & Arboreta

by Valerie Easton



Courtesy, University Photography,
University of Washington

Sometimes we can best see the gardens closest to us in the reflection of others. We are interested in how our Arboretum compares. We want to find out what forces of soil, climate, and history shaped the Arboretum we know today, and why and how these same forces created such different gardens and arboreta in other places. With the books below you can tour some of the world's best and most famous gardens, shown in all seasons. Perhaps through their problems and glories it is possible to further discover and understand the Washington Park Arboretum.

Great Botanical Gardens of the World. Edward Hyams and William MacQuitty. London: Bloomsbury Books, 1969. Oversized and filled with photos, maps, color plates and plans, this guide to nearly fifty of the most famous gardens and arboreta ranges from Kiev to Java, Rio de Janeiro to San Francisco. The diversity is amazing, with the ancient garden of Padua, Italy, which is the oldest in Europe, contrasting with the lush tropical gardens of Peradeniya, Ceylon (now Sri Lanka). While the plants and landscapes differ dramatically, there are remarkable similarities in politics and funding problems throughout centuries and across continents.

Four Gardens in One: The Royal Botanic Garden Edinburgh. Deni Bown. Edinburgh: HMSO, 1992. This is a straightforward, beautifully photographed guide to a garden that began in the seventeenth century as a tiny medical garden. Now grown to four distinct

sites, the diverse plant collections are well described, as is the long history of the gardens and the current work being done to conserve plants worldwide.

A World of Plants: Treasures from the Royal Botanic Gardens, Kew. Heather Angel. Boston: Little, Brown, 1993. Although the purpose of Kew's amazing and diverse plant collections is scientific research and education, you could easily be fooled by this book into believing it is to accumulate sheer beauty. The world's largest collection of living plants from habitats ranging from coral reefs to deserts, tropical rainforest to grasslands, is stunningly photographed in closeup, and throughout the three-hundred-acre gardens.

A Garden for All Seasons: Chicago Botanic Garden. Jay Pridmore. Chicago: Horticultural Society, 1990. Long on color and short on text, this guidebook serves as a celebration of Midwest seasonal change. The Chicago Botanic Garden is an impressive newcomer in the world of botanical gardens, founded thirty years ago as a living museum to bring beauty and an appreciation of nature to visitors.

A World of Plants: The Missouri Botanical Garden. Charlene Bry. New York: Harry N. Abrams, 1989. Begun in the mid-1850s by philanthropist Henry Shaw, Missouri Botanical Garden is the oldest botanical institution in the United States. Well known for its Japanese garden, geodesic dome housing tropicals, and role in plant exploration and conservation, the

garden's beauties and history are well explored and illustrated in this oversized volume.

The New York Botanical Garden: An Illustrated Chronicle of Plants and People. Ogden Tanner and Adele Auchincloss. New York: Walker, 1991. Written in celebration of the New York Botanical Garden's one-hundredth anniversary, this book is much more than a seasonal tour of the gardens, although it does a stunning job at that. It emphasizes the scientific research and educational work going on at the Garden, with fascinating chapters on plant-hunting expeditions and "green gold and acid rain," the environmental work of the Garden.

For the People's Pleasure: Australia's Botanic Gardens. Carol Henty. New York: Rizzoli, 1988. "After the establishment of a government house, the next public amenity to be provided in a new British colony in Australia was usually a garden." This tradition of establishing magnificent public gardens is explored in photos, text, and paintings, covering over a dozen gardens, their history, and plants, throughout Australia.

Valerie Easton is a librarian at the Elisabeth C. Miller Library, Center for Urban Horticulture. She is also a member of the *Arboretum Bulletin* editorial board and a freelance writer.

Gardens Open to Arboretum Foundation Members

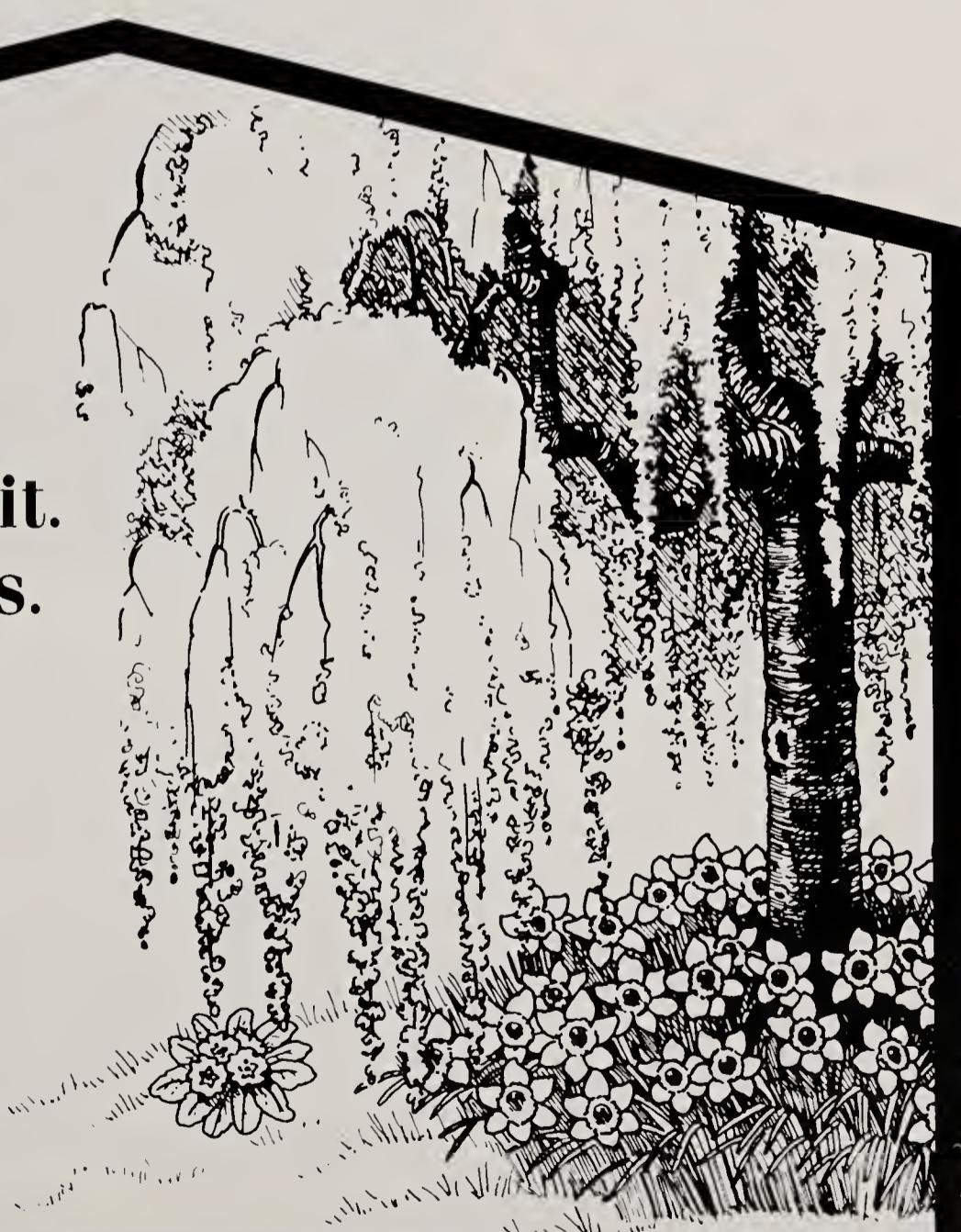
Arboretum Foundation groups get the opportunity to visit special open houses of private gardens around Puget Sound, many of which are otherwise inaccessible; sometimes there is a small donation. Occasionally, several private show places within an area are also open. Also, consider joining a biannual tour of gardens in various regions of the world and in the Northwest, with profits benefitting The Arboretum Foundation. Call (206)325-4510 for information.

The Center for Urban Horticulture also offers local, national, and international tours. Call (206) 543-8616 for information.

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Toward the Future: The Arboretum Master Plan

by John Behnke
photos by Joy Spurr

It is easy to become absorbed in the beauty and wonder of the Washington Park Arboretum. The colors and fragrances and grandeur of the plant collections provide a superb backdrop for an array of pleasant year-round outdoor activities. Sometimes people must be reminded that this magnificent park is really a museum.

The Arboretum, besides being a spectacular urban green space, is the second largest collection of woody plants in the United States. Its collections are the backbone of research studies at the University of Washington, a primary resource for the nursery and landscape industries, and hands-on information center for thousands of Puget Sound gardeners.

Indeed, since its establishment more than sixty years ago, the Arboretum has been a cultural treasure with international horticultural significance.

History

When the regents of the University of Washington established the Arboretum in 1899, the City of Seattle donated more than two thousand trees to the project, first developed on the main campus of the University of Washington. The move into Washington Park came later, but the spirit and legacy of cooperation and collaboration between the City of Seattle and the University of Washington had been firmly established. In 1924, the city selected Washington Park as the Arboretum's new, permanent location.

Eventually, members of the Seattle Garden Club donated funds for planning. They were used to retain the Olmsted Brothers, the first

landscape architecture firm, which created a master plan for the Arboretum's growth. This early plan served as a working blueprint to ensure that the Arboretum would grow and thrive as a relevant scientific and cultural institution.

Today

A lot has changed since the original Olmsted plan. The plant collections have matured.

Special interest constituencies are concerned with open spaces, increased traffic, population pressures, and safety, and often exert conflicting pressures on the institution. And the Arboretum has new challenges to balance its role as a relevant community institution for both the casual user and the scientist. That is why the University and the City began working together during the spring of 1994 to create a visionary new plan for the Arboretum. And that is why The Arboretum Foundation has stepped forward to raise funds to underwrite it.

Public meetings in summer 1994 identified a variety of issues that were summarized in a scoping document for approval by the Mayor, the University of Washington administration, and the Seattle City Council. The master planning process is expected to take one to two years at an estimated cost of \$500,000. It is anticipated that to fully implement the plan it will take up to twenty years, with investments of fifteen to twenty million dollars.

A well-designed master plan will take up where the Olmsted Brothers firm's original working blueprint left off. It will update long-



Rhododendron 'Cynthia'

range plans to manage and display the collections, addressing the boundaries and appropriate uses of the site, coordinating traffic and parking, and developing relevant education and research programs.

With community input, visionary thinking, and careful planning, the Washington Park Arboretum can become a world class arboretum—a place so special, so appropriate, and so wonderful that people will continue to come from all over to experience and enjoy it for many decades to come.

John F. Behnke chairs The Arboretum Foundation Master Plan Committee. A long-time honorary board member of The Arboretum Foundation, he is the retired chair of the board of Fisher Broadcasting Inc., Seattle. Mr. Behnke also serves on the boards of United Way of King County and the Virginia Mason Medical Center.



Philadelphus coronarius

Why a Master Plan?

- Valuable plant collections are dying because of old age or crowding by weeds and native plants.
- Plants need to be rearranged or displayed to demonstrate their natural ecology and geographic range.
- Educational and community outreach programs must more adequately satisfy today's high community interest in gardening and natural ecology.
- Pressure on the use of urban green spaces threatens WPA's boundaries.
- Vast increases in population, traffic, and crime have negative impacts.
- Current efforts to secure long-range stable funding for education, renovation, replacement, maintenance, and ongoing programs are weakened or stymied because of the need for a formal long-term plan.



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*The Bulletin is published by
The Arboretum Foundation
Washington Park Arboretum
University of Washington
Seattle, Washington 98195
(206) 325-4510*

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Seattle, WA
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15983 * 10/1/96